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EDITORIAL—SOME HIGHLIGHTS

I. General Economic Scene

State :

Fifth Plan and the First Year Annual Plan: There has been no further progress towards finalisation of the State's Fifth Plan and the 1974-75 Annual Plan over that reported in the last issue of the Bulletin (Vol. IV pages 175 and 176). The Bulletin's guess that the Fifth Plan will be established around Rs. 1,200 crores for the State sector and the 1974-75 Annual plan at Rs. 150 crores, provided the State government makes an additional effort to raise the necessary resources, is supported by the outline for both published in the 1974-75 budget document. By the beginning of March, the discussions between the Union Planning Commission and all the States on their annual 1974-75 plans have been completed. In the discussion with each State, the Commission limited its contribution to indicating what it considered priorities, namely power, agriculture and irrigation, the urgency or completing schemes before starting new ones, the need to economise on oil and increase production of coal and lignite. On this basis there were also indications of how each Plan could be reduced. But as in the case of this State, no final decisions on the plan level and activities for 1974-75 were established, pending the meeting of the National Development Council sometime in March. Meanwhile the State government has gone ahead and established its Fifth Plan at Rs. 1,234 crores (plus centrally sponsored schemes at Rs. 110.9 crores, central sector schemes at Rs. 23 crores) to act as a frame of reference to all departments in establishing their annual plans and in guiding their implementation. Further the major issue at the next NDC meeting will be the effect on the draft Fifth Plan of the 26 per cent price rise in 1973-74 and the oil crisis. In this context, the principles of allocation and pattern of central assistance might not loom large. There might be some marginal changes in what is called grants or subsidies to the States to meet the demands of the minimum needs programme. But even this will be quantitatively small and will be to the disadvantage of developing States like Tamil Nadu. Under these conditions, the State Government is right in going ahead as it has in its budget with an annual Plan of Rs. 150 crores.

1974-75 State Budget: Despite the uncertainties surrounding the State's Fifth Plan and the 1974-75 Annual Plan as analysed in Vol. III page 613 and in the last issue Vol. IV pages 175 and 176 and in the paragraph above due to the Union Planning Commission being unwilling and unable to accept the State's carefully prepared proposals, the 1974-75 Budget presented by the Chief Minister to the State Legislature on March 4 is a forward looking and development oriented fiscal exercise. It represents a working combination between the needs of growth and the demands of social justice. Its main features may be summarised thus: (a) It is fiscally well balanced. On revenue account against a receipt of Rs. 470.69

crores, the estimated expenditures are Rs. 483.25 crores, giving a revenue account deficit of Rs. 12.56 crores, and a total deficit of Rs. 22.42 crores. There are two uncertainties in these estimates which may cause even more serious changes than in the 1973-74 budget, where the anticipated surplus of Rs. 49 lakhs (See Vol. III page 227) has in the revised budget for that year turned into an anticipated deficit of Rs. 4.84 crores, due to a decrease in assistance from the Union Government. Against Rs. 61.54 crores anticipated from the Union government, the State will be receiving only Rs. 41.15 crores as assistance to State schemes, the family planning allocation was reduced and no assistance given to the flood relief programme. On the other hand, expenditures increased by over Rs. 7 lakhs due to the DA granted in October 1973 and the employment programme. This first group of uncertainties is even more strongly present in this year's budget estimate because while last year there was a firm commitment of the Union government to the Plan expenditures of Rs. 129 crores, for this year the Union Planning Commission has committed itself so far only to a plan 2/3 of the size included in the Budget. A second group of uncertainties is that like the Union Budget, there is a possibility that the receipts from some of the sources of income—such as liquor excise, sales tax and the entertainment levy, may have been underestimated. The revision of this budget will therefore be more extensive during the year than that of the previous year. (b) To meet the gross deficit of Rs. 22.42 crores, the budget proposes taxes and other revenue raising measures which will yield Rs. 10 crores thus making the net total deficit Rs. 12.42 crores and the revenue account deficit Rs. 2.56 crores. The tax measures proposed are: (i) raising the sales tax exemption limit from Rs.25,000 to Rs. 50,000 which will promote small traders and trading in the State and compensating for the resulting loss of Rs. 2 crores by increasing the surcharge on traders with a turnover of Rs. 10 lakhs and above from 5 to 10 per cent, (ii) replacing the multipoint sales tax in the case of 59 more commodities which have been subject to a 3½ per cent tax at 2 or 3 stages by a single point tax at below 7 per cent together with taxing non-essential items consumed by middle and richer class at 10, 15, 25 and 30 per cent, exempting firewood, cattle-feed, and glass bangles from any tax and levying a single point 3½ per cent tax on pulses and edible oils, (iii) raising the liquor tax from the hitherto 24 per cent on imported liquor and 12 per cent on indigenous brands of foreign liquors to a uniform 25 per cent, (iv) a tax of 30 per cent on arishtam, (v) replacing the past 3 point entertainment tax levied by the government, municipalities and Panchayat Unions by a single tax, (vi) rationalising the two types of taxes on transport buses and stage and public carriages by a single tax based on the type of stage carriage and area of operation, reducing the number of slabs from 19 to 7 on goods vehicles and (vii) a new raffle certificate scheme of Rs. 10 and Rs. 100 which will be refunded after 2 years, as a means of promoting small savings. The new tax measures are thus essentially a rationalising and simplification effort along with taxing the relatively well off traders and consumers, with exemptions for the poor. (c) The development measures proposed which, as pointed out, rest to some extent on an uncertain financial base because of the uncertainty of Union assistance and investment, are sound. The State is faced with an unusual situation where against 1973-74's approved Plan of Rs. 129 crores, the Union Planning Commission has suggested actually a smaller plan for 1974-75 at Rs. 109 crores to Rs. 118 crores. The reason for this as is pointed out later in the Union Budget

paragraph later is not simply the resource constraint. The total Union Plan outlay is increased from last year to this year by Rs. 405 crores. The State's Plans provisions are an additional Rs. 247 crores. Why then is there this reduction in this State's Plan unless the proposed increase is not real? Despite this limitation, the development programmes to be financed by the budget are: (i) the development of agriculture including extension of HYV to 67.93 lakh acres, major and minor irrigation and compensating the Electricity Board to meet agricultural pumpset losses —Rs. 68.81 crores. In addition long term credit of Rs. 17 crores and short term and medium term credit of Rs. 81 crores to farmers from financial institutions will be available. A tropical Fruits Research Institute, a State Agricultural Training Institute at Kudimianmalai, a State Farm Corporation and Rs. 1 crore for roads around sugar factory areas are included in the provision. (ii) For animal husbandry Rs. 5.26 crores and fisheries Rs. 5.32 crores are proposed. Operation Flood will have Rs. 3.8 crores during the year (iii) Rs. 30.83 crores are provided for 7 irrigation schemes, Rs. 4.51 crores for SMIP, Rs. 11.44 crores for maintenance and repairs of irrigation works and Rs. 50 lakhs for tank repairs. (iv) On power there is provision for the Tuticorin Thermal plant while all the other major projects—the Mettur thermal plant, the 1,000 MW second thermal plant at Neyveli and the Western Ghats and Hogenekal projects are still awaiting the Union government's approval. This means that the gap between the power demand (235 lakh units per day) and generation (190 lakh units per day) of 39 lakh units will continue this year and will increase next year, forcing the government to purchase power from Kerala at high rates. To compensate for this increased cost of Kerala power from 5 paise to 8 paise and Neyveli from 5.9 paise to 8.48 paise and the subsidy to the agricultural sector, the surcharge on all electricity tariff rates except for agriculture, street lights and domestic use will be doubled from 15 to 30 per cent. (v) Handloom weavers are provided with Rs. 2.01 crores as aid plus acting on the Santhanam Committee recommendations to promote the industry. (vi) In the industrial field the work of TIDCO, TNTC, SIDCO and SIPCOT and the joint sector are to be expanded. These budget provisions should enable the State's agricultural and industrial sectors to continue their expansion. (d) The human and social infrastructure is to be strengthened and expanded (i) Education's budget is to be at a record Rs. 110.15 crores. There is a plea for early decision by UGC on the Madras University of Technology and for the establishment of more viable universities in the State. The State Planning Commission's education plan is accepted though it is to be regretted that more of its recommendations have not been budgeted. (ii) On cultural promotion, Rs. 6.5 lakhs is provided for the revival of Poompuhar, Rs. 5 lakhs for the reconstruction and preservation of Kattabomman's home and fort, and Rs 10 lakhs for the Valluvar Memorial at Nungambakkam and the Mylapore temple renovation. (iii) For health and family planning Rs. 48.74 crores are provided for expanding hospitals, dispensaries and family planning services. (iv) For the Welfare of Harijans Rs. 9.98 crores and for backward classes promotion Rs. 6 08 crores are provided. (v) For the nutrition of pre-school children and pregnant and lactating mothers a provision of Rs. 3.3 crores is made. (vi) On housing Rs. 8 crores are to be spent plus Rs. 8 crores in loans and for slum clearance Rs. 4.75 crores are to be expended, and (vii) For rural roads Rs. 3 crores are to be spent and Rs. 4.27 crores for water supply to the 4,960 villages with no water and 2,230 villages in endemic

areas, Rs. 21.67 crores being proided for rural development and Rs. 1.13 crores for urban roads. (e) The budget also has certain important innovations which carry further forward the objective of promoting growth and improving the condition of the poverty sector. (i) District Development Corporations which will be responsible for planning and implementing effectively the development programmes of the districts, as recommended by the Seminar on Plan Implementation (See Vol. III page 760), are to be set up in four districts to start with — Ramanathapuram, Coimbatore, Dharmapuri and Thanjavur—and later extended to all districts. This will be an effective start in decentralizing planning and execution in the State (ii) The Rs. 1 crore granted as interest free loan for the relief of unemployed handloom weavers is now turned into a grant and will not be reimbursed by the weavers. This will enable the weavers to make a fresh start as the yarn position in the State has improved. (iii) Four industrial units, Coimbatore Textools, Dharmapuri LASCO Alloy Steels, Sakthi Pipes and Southern Structurals in which the government had invested resources to revive them and reorganised their management are to be taken over by the State with the concurrence of the Union government. Unlike the proposal to takeover MALCO (See Vol. III page 228) made in last year's budget, which has not been approved by the Union government, this proposal is taking over complete responsibility for the 4 units which are financed by the government and managed in its name (iv) An innovative social security scheme is introduced under which any one on payment of a monthly contribution of Rs. 10 by a person who is 30 years old, a monthly pension of Rs. 100 will be paid to the person from the age of 55 or in the event of his death earlier the principal and interest will be refunded to his dependent. This means that all in the State from the lower middle class upward is covered by a social security scheme. The scheme will be of particular benefit to the lower salaried classes. It will also be the beginning of a State savings scheme to which the State Unit Trust should be added (v) Finally a Labour Welfare Fund has been started with an initial provision of Rs. 5 lakhs. The Fund is to finance Welfare Centres for workers and their families.

Power: During February the power situation worsened in the State and the Country and the summer prospects looked grim. The only bright spot was the agreement in mid February with Kerala under which it agreed to supply this State 30 million units over and above the 300 million units upto May 22, 1974. By early February it had supplied 173 million units at the rate of 18 lakh units per day. The State's power generation as referred to in Vol. III page 230 (with some updating) is 2,240 MW of which 1,700 MW is hydel. The power problem faced by the State is a threefold one. First while the hydel reservoirs received adequate inflow from the rains last year, the Mettur level reached the low 5 metres level by mid February. Second there is no provision for meeting the normal increased power demand from rural electrification and energisation of pumpsets which can be set at 10 per cent per annum. Third the thermal plants in the State face an uncertain coal supply situation. In early February their coal stocks amounted to just 3 or 4 days need. The Singareni coal supply which had fallen to 17,000 tonnes (instead of 70,000 tonnes) for January and nil delivery till mid February on top of the short supply reported in Vol. IV page 112 led to negotiations with the Railway Board and the Singareni Colliery authorities as a result of which the monthly movement of 70,000 tonnes from Singareni has been assured. Further the Union Transport Ministry agreed to charter an 8,000 tonnes

vessel to move coal from Bengal-Bihar coal fields for the State Electricity Board. Both the Union Mines Ministry and Coal Mines Authority in charge of Talcher coal fields assured their co-operation in making available the coal supply. The Bhopal unit of BHEL had also completed the repair and testing of the 2 Ennore transformers and the railway authorities were moving them by Special wagons to Ennore by the end of March. With this deficit situation, whatever may be reduced in the first year of the Fifth Plan, the allotment for power development should be maintained intact. The Tuticorin project which was finally approved after long delay (See Vol IV page 4) should have its full Rs. 5 crores as should all other projects analysed in that issue.

The power situation in the Country also began worsening as noted in the last issue. Andhra Pradesh was a deficit of 5 to 6 lakh units per day until the summer months, when its 110 MW thermal unit at Kothagudem would be commissioned. As a consequence in addition to the 2 lakh units a day it is purchasing from Kerala, it is borrowing 3 to 4 lakh units a day from this State, which it will return in May/June when its Kothagudem plant goes onstream. These arrangements as well as the question of the price per unit and the Kuppam power exchange between the 2 States should be settled bilaterally and within the facilities available from the regional grid. In Gujarat, due to the closure of one unit of the Tarapore atomic power station, in February, a 50 per cent cut was imposed from February 1 on high tension consumers and 10 hours of load shedding in the agricultural sector due to the close down of one of its thermal nnits. The Punjab Electricity Board introduced wide ranging restrictions on all categories of consumers from 1 February and limited power supply to tube wells in the rural areas to 6 hours a day or 12 hours on alternate days. In effect the power cut in the Punjeb was doubled to 40 per cent over that reported in the last issue (Vol. IV page 177). In Haryana the power reduction in Fabruary was even more serious. The large Sonepat industrial complex laid off 10,000 workers with no indications of when production and employment would be resumed. In this situation there is need for detailed planning of the supply and demand situation in each State and effective co-ordination of the plans by a Union authority which will bring together the Union Ministries of mines, railways, transport and power. There are a large number of private generators in this State and Country estimated at 1,000 and 4,000 respectively (See Vol. III page 312) which should be converted into coal firing from diesel oil and brought into use by ensuring a regular supply of coal. In addition all power projects should be given their full allocation in the 1974-75 State plans so that the situation does not worsen by mid term of the Fifth Plan.

Kerosene and domestic gas: Kerosene has been in short supply in the Country from January and will be so till April when the Soviet supplies will become available. As furnace oil supplies have to be ensured, refineries have been asked to maximise their production of fuel oil and reduce their output of HSD and Kerosene. As a consequence the supply of kerosene to all States was reduced by 15 per cent in January and by 20 per cent from February. The base on which this reduction was computed, deducted the use of Kerosene for adulteration of HSD in the pre-mid October period, (See Vol.III page 787), that is before the price rise in Kerosene which prevented its further use for adulteration. In this State, for instance, the pre-mid October consumption was 30,000 tonnes of Kerosene. The Union authorities estimate that somewhere around 4,000-5,000 tonnes was being

used for HSD adulteration purposes. Hence the 20 per cent cut in February meant that the State supply was limited to 20,000 tonnes. The adequate distribution of this limited amount and its sale at the enhanced fixed price are the immediate tasks. There ought to be no real scarcity in the State on this account. Parallel action is underway to increase the supply of domestic gas, LPG, to relieve the pressure on Kerosene. Madras Refinery which releases 28,000 tonnes of LPG a year will by substituting oil for LPG in its own consumption, save 12,000 tonnes of gas for release to the public. This annual increased release of 40,000 tonnes will meet the demands of Indian Oil's 1,35,000 users, 20,000 new applicants and make possible some kind of product exchange for the 30,000 Calgas subscribers who suffer frequent long delays as their supply has to come from Vishakhapatnam. Tamil Nadu and the Southern region can be served fully by the Madras, Cochin and Vishakhapatnam refineries in a rationalised manner. But the question of the use of LPG for cooking raised in the last issue of the Bulletin should be faced.

Commercial taxes: The report on the rationalisation and simplification of commercial tax laws was submitted to the government in early February. This 12 month study on simplifying the forms and rules of commerical taxes and the possibility of extending further single point sales taxes is of interest both to the government and the commercial community. The Report after study and review by the government, resulted in the 59 additional commodities brought under single point levy announced in the budget proposals referred to earlier.

Roads: The government has expended on roads Rs. 30 crores during the Fourth Plan, mainly on levelling, realignment and culverts. The NCAER's transport Survey called attention to the urgency of roads development in the State in view of the 10 per cent annual increase in road traffic compared to 0.2 per cent increase in railway traffic. In fact the main conclusion of the study is that road development must be further strengthened during the Fifth Plan well beyond the rather heavy expenditures incurred during the Fourth Plan. The government is planning to develop a master plan for road development for each district on the principle of connecting the maximum number of places with the minimum road length. The financing of these district master plans will be directed by a single agency which will pool the resources earmarked for road development by various agencies such as PWD, Highways, Rural Development and Local Administration, Labour and Employment, and Agriculture. It also proposes to launch a Research and Training Institute for estimating the future manpower needs of this sector and the transport industry.

Railways: The movement of cement and sugar from the State to the North and the movement of coal into the State will be considerably facilitated by Railway Board's decision in early February to allot to the Southern Railway additional diesel locomotives. The coal supply in this sector of the Railways was of 3 days duration only and despite its cost, dieselisation is the only means of ensuring the speedy movement of goods. The doubling of the track from Erode to Shoranur and on the Guntakal division is in line with the technical finding that improvement and strengthening of the railway track will reduce fuel consumption by 15 per cent. Use of long welded rails should become general in this programme of expansion and renovation, as that can save fuel by 20 per cent—an economy urgently needed in view of the oil supply restrictions and prices. Following the overall approval of

the Madras Metropolitan development scheme (see last issue Vol. IV page 780), the Union Planning Commission's Metropolitan Transport team which visited Madras in February, endorsed the Mass Rapid Transport system (tube railway) scheme. It has recommended that the Railway authorities expedite the techno-economic feasibility study so that the work on the tube railway may be started during the Fifth Plan. Of the Rs. 200 crores for similar schemes in the four metropolitan cities, this State is likely to be allocated Rs. 50 crores for the project.

Port: Madras' capacity and facilities for certain types of the increasing traffic it is called upon to handle is inadequate despite all the extensions and improvements analysed in Vol II No. 10 page 23, and No. 12 page 8. Three food ships which arrived in the Madras harbour in November and January, suffered a delay of 6 to 13 days before they were given a berth and had to wait till early March, to discharge their food cargo. About 40,000 tonnes of wheat was lying around for 2 months waiting to be cleared. The question of priority for berthing and unloading simply does not arise because all the ships arriving or leaving carry priority goods—fertilisers, mineral oil, coal, iron ore, crude oil. In January five ships carrying 2.34 lakh tonnes of crude oil discharged their oil and in February over 1 lakh tonnes. Also the ore berth at the port which can handle a stock of 2 lakh tonnes was handling a stock of only 25,000. This meant that in February the Madras harbour could not achieve its target of 3.15 lakh tonnes of iron ore exports. Against last year's target of 25 lakh tonnes, only 18.5 lakh tonnes were exported till the end of January. This was due to the inadequate transport of ore from Bellary-Hospet to the harbour. Around a million tonnes of ore were lying at the rail heads in Bellary-Hospet. Instead of transporting 15,000 tonnes a day they were transporting to Madras only 2,500 tonnes daily due to the lack of coal for the engines and labour unrest. In the interest of ensuring and attaining important export targets, the coal situation needs to be rapidly improved and stabilised. It should be noted that the other ore handling ports—Kakinada, Cuddalore, Mangalore and Kundapur—did not suffer these handicaps and did well during the months of February and March. The two immediate problems are the manual unloading of food ships and the export hold up. For unloading food there are only 2 labour gangs, with which 600-700 tonnes a day are discharged and only 1,000 tonnes a day moved by rail and road. Pelletisation of cargo and making Madras a terminal point will avoid the shut out of export cargo. In addition the railway authorities should assign enough wagons to help FCI move the wheat out quickly. Otherwise February registered a record for handling of other cargo at over 7 lakhs compared to over 5 lakhs in February 1972. In the 11 months April 1973 to February 1974 the total tonnage handled by the port was 70 lakh tonnes compared to 68 lakh tonnes for all of 1972-73. For 1973-74 it will amount to 77 lakh tonnes.

Airport: Madras Airport is being extended and improved so that by the end of the present financial year it can handle double the present passengers and freight. Rs. 20 lakhs are being spent on building these additional structures involving a waiting hall for 4,000 passengers per day instead of the present 2,000 and other accompanying expansions both in the domestic and international areas.

Water: The second report on the Cauvery Waters requested by the Chief Ministers of the 3 States (See Vol. III page 775) should have been ready and completed by March. It is necessary now

that the 3 chief ministers meet under the chairmanship of Union Minister of irrigation in order to arrive at agreed sharing of the Cauvery waters. The main problem is to reconcile the demand mainly of Karnataka and Tamil Nadu with the supply. This can only be done through (a) economical use of the water and (b) consequent cutting back in the claims of each State.

Housing: The government launched in mid February the Tamil Nadu Harijan Housing and Development Corporation to provide housing facilities for Harijan families. There are 14 lakh Harijan families in the State and it is estimated that over 8,000 house sites acquired by the government and allotted to Harijan families remain vacant. The Corportion has raised Rs. 1 crore for this year, with which 8,000 houses are to be built in the State, with the aim of constructing 500 to 600 houses in each taluk. This is a long standing need highlighted by the first publication of this Institute, Income Earning Trends and Social Status of the Harijan Community in Tamil Nadu. The government has also decided to finance power charges in all Harijan homes which have all been electrified by the end of last year. The norms for the house site areas which exist in State legislation have also been laid down by the National Commission of Agriculture which recommends that in an urban area the site should be 100-150 sq. yards; when space can be provided for cattle shed, poultry, piggery and village industry, the area should be 250-300 sq. yards; where water is available for vegetable growing the house site should be 300 sq. yards. The Institute for Techno-Economic Studies using these norms in a recent study computes that the cost of allotting houses and house sites to 41.8 lakh agricultural landless labourers will amount to Rs. 808 crores, comprising Rs. 250 crores for new houses, Rs. 112 crores to replace kucha houses and Rs. 441 crores to replace the roofs or walls of the houses of the poorer sections of the rural population in the State. In another development HUDCO is giving the State Housing Board aid of Rs. 3 crores for housing programmes in Dharmapuri, Kumarapalayam, Dindigul, Tirunelveli, Tiruchi and Tiruvanmiyur. There is also scope for the Housing Board to use HUDCO's aid in setting up building materials plants in some of the backward districts as it has done with the wood working unit and semi-mechanised brick plant in Madras. (See Vol. III pages 164 and 474).

Pongal Tourist Fair: The Pongal Fair referred to in the last issue (Vol. IV pages 180-181) closed at the end of February after a 44 day run. It had attracted a large and interested audience and ended with a profit of Rs. 1.5 lakhs. The government has gifted to the Tamil Nadu Tourism Development Corporation which had organised the Fair, the Rs. 5 lakhs which had been loaned to it for setting up the fair. With this gift, the Corporation is establishing a division for organising permanent fairs in the city and the various districts of the State. The model village, the two Ayyanar statues, the temple pillars are among the items that can be used for setting the permanent exhibition in Madras.

Welfare: The Southern regional meeting in Madras of the Central Social Welfare Board at the beginning of November was an occasion to review the States' Welfare programme and its participation in the Board's activities. In addition to the integrated programme of child welfare services which cover health, nutrition and pre-school education, and the care of destitute women and rehabilitation of the physically hadicapped, the State government will be participating in the

five new programmes being launched during the Fifth Plan by the Central Board—the programme also proposed in the most recent study of this Institute, Women's Welfare, which will be released towards the second half of the year. These programmes include a programme of condensed education for adult women to train balasevikas for which an all India outlay of Rs. 4 crores is proposed: a functional literacy programme for women which can be carried out by the 13,000 Mahalir Mandrams in this State and for which an outlay of Rs. 8 crores is proposed; an employment programme in bakery, printing, handlooms and toy making for generating women's employment and for which an outlay of Rs. 4 crores has been proposed, a self employment scheme under which 5 or more women can join to set up a dairy for which Rs, 11,000 will be provided as loan assistance. The Fifth Plan outlay has been more than doubled in the National Plan — Rs, 27 crores, against Rs. 12 crores in the Fourth Plan. In addition the Union government has asked the banks to set apart 0.5 per cent of their advances for socio-economic schemes to help women set up and run employment programmes. Thus the stage is set for an enlarged and effective women's welfare programme in this State. Another area where action is developing is in regard to food adulteration. In mid February the Tamil Nadu Varthaga Kazhagam took action urging the Union and State governments to tighten the Prevention of Food Adulteration Act and to constitute the State Advisory Committee to ensure its strict enforcement. Oil mills were visited and samples taken for testing as to the purity of the product. With the price rise in the State of essential articles being contained, this action to prevent food adulteration is necessary and complementary to measures to combat inflation.

City Water and Cattle: Due to the relative failure of the North East monsoon, water supply to the city from February 1 had to be reduced. From 42 million gallons per day, the reservoir storage position called for a reduction to 25 million gallons. The government however activised 22 deep borewells in the Tamrapakkam area, enabling the daily supply to be reduced to 35 million gallons. The use of water from the Corporation lines for gardening has been drastically reduced and the availability restricted daily to 4½ hours. Industrial consumers will have to depend increasingly on their own bore wells. The city's cattle population of 43,000 has become a major obstacle to the trade and traffic in the city. One important reason is that the majority of the cattle belong to the poor people living in slums who have no facilities to keep the cattle in their huts and homes. The Corporation has five sheds for providing the cattle with shelter. Only one of these' the one at Mylapore is functional. It is now proposed to reconstruct the other four at Triplicane, Chintadripet, Basin Bridge and Kosapet and build 10 more cattle sheds so that 3,000 cattle belonging to the poor may be provided with shelter and taken off streets.

Textile Wages and Labour: As forecast in Vol. IV page 117, the breakdown in the wage negotiations led over 1.23 lakh workers in 208 textile mills in the State to go on strike from February 1 in support of their demand for an increase in basic wages and dearness allowance. The Government on the breakdown of the Arunagiri Committee set up a Special Industrial Tribunal under Mr. Sadasivam, retired judge, Madras High Court and called on it to adjudicate the dispute within 3 months. The Textile Trade Unions Action Committee leading the strike rejected this procedure and called for an immediate settlement by the government. The daily loss of production consequent on the strike was 3,000 bales valued at

Rs. 1 crore, 300 bales of cloth valued at Rs. 9 lakhs to which should be added Rs. 16 lakhs lost in daily wages by 1.23 lakh workers, Rs. 4 lakhs by the Union government in excise duty, Rs. 2.3 lakhs by the State government in sales tax, and Rs. 3.5 lakhs by the Electricity Board. The tragedy is that during February when the power cut was only 5 percent and the industry could have made up its production lag of last year, the strike cut back in production: in the summer months when there will be further power cuts there will be no means of recouping these losses. As a result of the personal initiative of the Minister of Labour and after prolonged negotiations, on February 15 a compromise solution proposed by the minister emerged. The monthly basic wage to be increased by Rs. 7.50 from January 1, 1974 and by another Rs. 7.50 from January 1, 1976. The D.A. to be increased to 29 paise per point over 340 points in the Madras cost of living index from January 1, 1974 and to 30 paise per point from January 1, 1976. An ex-gratia ad hoc payment of Rs. 200 each to be paid in satisfaction of all past claims and the other demand to be dropped. The ten days wages or Rs. 100 already paid is not to be recovered. The Co-operative and Textile Corporation mills also to implement these terms except that the ad hoc payment will be Rs. 100: the strike period to be treated as leave. At first all Unions except CITU accepted these terms. Three days later new problems arose on both the workers and management sides. On the Trade Unions side the demand was for the Co-operative and Tamil Nadu Textile Corporation mills also to pay Rs. 200 and not Rs. 100, a demand which was conceded by the government on February 20. On the mill owners' side, by February 23, 40 mills had not yet sent in their agreement to the minister's compromise and the Unions were insistent that government should use all its power to compel these mills to follow the agreement before the strike was called off. B & C mills also accepted the arrangement with the reservation that as it was not part of the Arunagiri Committee discussions, its position was that the ex (-) gratia payment did not apply to it. By the end of the month of February, all parties—Trade Unions and mills—with the exception of CITU, which wanted a higher D.A. and basic pay were near agreement. But agreement was not reached and the wasteful strike was continuing. There were extra industrial factors at play in this situation. With the elections at Coimbatore and Pondicherry on February 24 and the results to be announced on February 26, there was no urgency in settling the issues facing the industry. On that day, February 26, the strike was settled on the same terms proposed by the labour minister summarised above. The government undertook to persuade the 42 mills which have not indicated their acceptance of the settlement. Similarly the government brought together the B & C management and workers representatives to settle the dispute in that mill.

National:

The 1974-75 Union Budget: In light of the industrial stagnation, price inflation and pressure on the balance of payments characterising the year 1973-74, marking the last year of the Fourth Plan, the Union budget for 1974-75 presented at the end of February to the Lok Sabha is on the whole a sound instrument to face these negative factors and lay the base for moving the economy forward in the direction of increased industrial activity in so far as the budget can make its contribution to that purpose. Its main features are: (1) It is an enlarged budget over that of last year. In 1974-75 the revenue on current account will be Rs. 5,641 crores and on capital account Rs. 3,099 crores, while the expenditure on revenue account will be Rs. 5,408 crores and on capital account Rs. 3,456

crores, yielding a revenue surplus of Rs. 233 crores and a capital deficit of Rs. 358 crores. There is thus an overall deficit of Rs. 125 crores. This should be compared with the budgeted deficit for 1973-74 of Rs. 85 crores (See Vol. III page 234) which the revised estimates presented increased to Rs. 650 crores. On revenue account the 1973-74 budget income was Rs. 5,079 crores revised to Rs. 5,102 crores, the expenditure Rs. 4,778 crores revised to Rs. 4,954 crores, reducing the revenue surplus from Rs. 301 crores to Rs. 148 crores. On capital account the budget income was Rs. 2,460 crores revised to Rs. 2,688 crores, the expenditure Rs. 2,848 crores revised to Rs. 3,484 crores, increasing the capital deficit to Rs. 798 crores. The jump in the budget deficit for 1973-74 from Rs. 87 crores to Rs. 650 crores was due to (a) giving effect to the recommendations of the third Pay Commission which was not provided for and which amounted to Rs. 236 crores, (b) the four instalments of the dearness allowance costing Rs. 100 crores-(c) drought relief assistance to the States amounting to Rs. 220 crores to finance 143 relief works employing 93 lakhs of people, (d) relief to States for natural calamities and to meet their gaps and some projects amounting to Rs. 289 crores, (e) the high cost of imported foodgrains amounting to Rs. 121 crores above the Rs. 130 crores budgeted as food subsidy, (f) the stagnation in production which reduced receipts by Rs. 107 crores, (g) the deficit of the railway budget of Rs. 109 crores. As against these additional demands, receipts from market borrowings amounted to Rs. 472 crores compared to the budget provision of Rs. 326 crores and reduction in plan and non-plan expenditures of Rs. 371 crores (See Vol. III pages 480, 626 and 782 as updated in this issue). The net effect was the deficit of Rs. 650 crores for 1973-74. The deficit budgeted for 1974-75 is more realistic than the original budget deficit for last year but it is a deficit which need not arise if the economy moves forward. (2) The gross deficit for this year is Rs. 311 crores which is reduced to Rs. 125 crores by raising additional resources through fresh taxation amounting to Rs. 186 crores actruing to the Union government and Rs. 26 crores to the States. The new tax proposals have several aims: (a) they are largely concentrated as increased or new excise duties on commodities which are consumed by the lower and upper middle and rich classes covering tobacco, dye stuffs, rubber products, plastics, TV sets, air conditioners, refrigerating and air conditioning machines, scooters, mopeds, and auto rickshaws, medium fine and superfine textiles, polyester fibre, raw naphtha, benezine, glassware, chinaware, batteries, iron and steel products, paper and paper board, whisky, brandy, gin, cement, cosmetics, long playing records, tooth paste and dental cream, (b) communication costs are raised in regard to post cards, inland letters, telephones, and telegrams, (c) the Wanchoo Committee recommendation aimed at decreasing tax evasion through reducing the marginal rate of income tax from 97.75 per cent inclusive of the surcharge is accepted. This measure if accompanied by more vigilant tax collection could increase revenue and act as a spur to in creased savings; (d) taxes at all levels of personal income are being lowered and the exemption limit from income tax raised from Rs. 5,000 to Rs. 6,000. This will provide some relief to the lower middle classes and hopefully increase the propensity to save; deductions on travel, books and official expenses are limited to Rs. 3,500; e) wealth tax rates are being increased on wealth exceeding Rs. 5 lakhs from 2 to 3 per cent and on that exceeding Rs. 10 lakhs from 3 to 4 per cent. There is a rationalisation of wealth tax exemptions and in respect of agricultural land; (f) the rate of surtax on

the windfall profits of companies is being raised from 30 to 40 per cent, with a surcharge of 10 per cent on registered firms; (g) in regard to the withdrawal of the development rebate from May 31 in the case of purchase contracts for ships and machinery finalised before December 31, 1973, the rebate is being extended by one year. To promote the switchover of industries from oil to coal, the rebate is allowed upto June 1, 1975 for coal fired boilers or any machinery or plant for converting oil fired boilers to coal. Thus the tax proposals aim at taxing non-essential goods, reducing the incentive to tax evasion, increasing the incentive to invest, promoting investment and encouraging the switchover to coal as the major industrial fuel. The estimates are rather on the low side if there is anything like a normal growth of the economy. Further the increase in the price of petroleum and related products will increase the income of their excise levies. The heavy dose of indirect taxes will increase the burden on the lower and middle classes which is not compensated by the relief in income tax afforded. The wealth tax and corporate tax proposals are progressive in that the well to do and windfall profits will be paying the higher rates. The postal increases will affect the upper deciles of the poor and the lower middle classes. (3) The plan provisions for 1974-75 are important because it is the first year of the Fifth Plan and the start given to the Plan is important. The total provision for the first year of the Plan is Rs. 2,136 crores for the Union ministries inclusive of Rs. 81 crores for Union territories, plus Rs. 830 crores as assistance to the States plus Rs. 574 crores as extra budgetary resources for the Union ministries plan plus Rs. 2,059 crores for State Plans. Thus the total Plan outlay for 1974-75 is Rs. 4,769 crores compared to Rs. 4,364 crores in 1973-74, the Union ministries Plan increasing from Rs. 2,442 crores to Rs. 2,629 crores by 187 crores and the State Plans by 247 crores from Rs. 1,812 crores to Rs. 2,059 crores. If these computations are right, this represents a heavy burden on the States in additional taxes and mobilisation of resources as the Central assistance of Rs. 830 crores is only a meagre Rs. 20 crores increase over last year's plan. The fact that the Union Planning Commission is keeping down all States Plans to a figure at or below last year's indicates that there is little belief that this level of resource mobilisation by the States can be attained. Moreover the Annual Plan's apparent step up of Rs. 405 crores in relation to last year is illusory. By a change in the method of accounting, Rs. 320 crores for depreciation charges are included in the Plan for this year, so that the real increase is only Rs. 85 crores. If to this is added the 26 per cent rise in prices during the past year and the continuing rise this year, in real terms the Annual Plan represents a net decline in development outlays. (4) The priorities within the Union Plan resource outlay are sound and conform to the internal and international pressures facing the economy, and represent a sizeable increase in investment in what is called the core sector, which may be one reason why the State Plan outlays are stagnant (a) In order to ensure an increase in the production of coal to meet the oil and energy crisis, the outlay on coal has been increased from Rs. 24 crores last year to Rs. 97 crores; (b) to step up the production of steel and reduce its import to some extent, the total outlay on steel is increased from Rs. 201 crores last year to Rs. 276 crores this year; (c) similarly, to increase the production of non-ferrous metals the provision is increasd from last year's Rs. 56 crores to Rs. 75 crores; (d) to enable the railways to discharge their crucial role in the economy, the outlay for its development is increased from Rs. 181 crores last year to Rs. 342 crores this year; (e) to reduce the power shortage, Rs. 121 crores is being provided

including Rs. 40 crores for rural electrification, in addition to the Rs. 790 crores of State plans as aid; (f) to meet the fertiliser shortage and the difficulty of buying it abroad, the budget provides Rs. 163 crores against last year's Rs. 94 crores (g) the agricultural sector is provided with Rs. 246 crores to increase agricultural production and intensify the SFAD, MFAL, DPDA and ANP efforts and (h) the budget allows somewhat for the effect of the oil crisis in reducing the revenue from customs and excise. Whereas the estimated yield from direct taxes goes up from Rs. 1,354 crores last year to Rs. 1,423 crores, that from customs and excise increases from last year's Rs. 3,608 crores to Rs. 3,769 crores this year. The market borrowings are estimated at Rs.498 crores (compared to Rs. 472 crores last year) and the small savings collections at Rs. 360 crores. The budget also proposes certain long overdue structural changes in the financial management system whereby decision making will be matched with anticipated results. Similarly the budget is to be moved further in the direction of performance budgeting in order that the use of resources may be more effectively assessed. (5) On aid, the budget provides Rs. 8 crores as aid from India to other third world countries. The gross foreign aid received by India will be Rs. 849.79 crores plus Rs. 200 crores of the Soviet Wheat Loan (See Vol. III page 796) plus Rs. 150 crores as credit for crude imports from Iraq and Iran, making a total of Rs. 1,200 crores. Last year's gross aid was Rs. 712 crores. This increase is forced on the Country by the oil crisis. Our imports will be Rs. 3,600 crores and exports Rs. 2,700 crores. To the difference of Rs. 900 crores should be added Rs. 600 crores for debt servicing, making for a payments gap of Rs. 1,500 crores. The World Bank estimated that our payments gap in the Fifth Plan will be Rs. 10,000 crores against the Rs. 4,000 crores forecast in the draft Fifth Plan (Vol. IV page 10). The Budget is thus a positive document from the point of view of raising resources, allocating outlays in accordance with plan priorities and the special factors currently operating in the economy, encouraging savings and additional investment and providing some hedge against the effect of the oil and energy crisis. It is as good a start for the Fifth Plan as can be visualised at the present juncture. Its effect on the inflationary situation will be for the worse and on the wrong side unless there is an increase in production, rationing of bank credit, stabilising, if not decreasing money supply and an increase in savings and investment. The State Plans come off second best and the responsibility on the States to raise additional funds will be a heavy one. There are certain important areas on which the budget is not clear—the resources for the programme to generate employment, for the minimum needs programme, for the population control and family planning programme are somewhat in the limbo and the entire picture will not emerge until both the Union and State budgets are compared. The budget makes a fervent plea for industrial peace during the year. With that hope all in the Country will join.

Railway Budget: In presenting the railway budget 1974-75 the Union Minister first described the railways poor performance in 1973-74. Against the target of 265 million tonnes of originating traffic, it carried only 192 million tonnes. The serious effects of the delay in the transport of coal, steel and cement have been examined in every issue of the Bulletin. A startling admission by the Minister is that coal movement has declined by 10 million tonnes compared to the previous year's movement of 71 million tonnes, which means that only 61 million tonnes of coal will be available to the consuming industries and families against the Minis-

try of mines' claim that 80 million tonnes of coal will be moved in 1973-74, which the other parts of this issue has accepted. Who is right? Is 19 million tonnes of coal mined and sitting at the pitheads? The revised 1973-74 budget shows that there will be a deficit of Rs. 99.75 crores due to a fall in earnings (Rs. 93.22 crores), a rise in expenditure of Rs. 52 crores following the recommendations of the Pay Commission offset by a saving of Rs. 17 crores. The three reasons given for this poor performance are well known. First is the stagnation of the economy to which the minister's report refers. Industrial production stagnated in 1973 due to short supply of steel, coal and cement, power cuts and load shedding resulting in lower traffic earnings by the railways. At the same time as a top priority 2.4 million tonnes of foodgrains will be moved from May to July compared to 1.64 million tonnes and 1.4 million tonnes in the previous year. The second was the disturbed industrial relations in the railways and the effect of the Andhra agitations on the movement of goods. The third factor was the Pay Commission and the further liberalisation of its recommendations. The Fourth Plan thus closed dismally with an expenditure of only Rs. 145 crores less than the provision of Rs. 1,430 crores but with the worst performance in the last 12 years. Against this record, the 1974-75 bugdet has little of cheer. It proposes increases in freight and passenger rates which will increase its income by Rs. 136.38 crores but even so will leave a gap of Rs. 52.79 crores as the budget shortfall plus Rs. 63.26 crores as shortfall in the railway's cash reserves. The freight increases which are the most serious because of their potential inflationary effect, will net Rs. 84.22 crores, of which the increase on coal transport will bring in Rs. 39.33 crores. Here the industries in the South will suffer as they will have to pay a much higher rate than the 6 per cent increase quoted by the minister. The passenger fare increases seem reasonable. But there seems to be a built in cushion in the budget. It has a conservative estimate of originating traffic at only 10 million tonnes over the 192 million tonnes for 1973-74. If there is increased industrial production, particularly as planned in steel, and fertilisers and coal, the traffic income will be much higher than the Rs. 1,427.15 crores forecast. The freight increases cover all non-food items, oil cakes, cement, urea, ore, firewood, charcoal, petrol, kerosene and diesel. The plan expenditure is increased from Rs. 324.19 crores in 1973-74 to Rs. 368.14 crores in 1974-75, but in physical terms it is smaller as seen in the cut on the order of railway wagons from 15,000 to 12,000. The dieselisation and electrification programmes are being continued and extended. Electrification will be 1,800 kms in the Fifth Plan, 3,000 kms in the Sixth Plan and 4,000 kms in the Seventh Plan. It is to be hoped that with the pick up of industry and industrial peace in the railways, the year's performance will exceed the modest freight target that the railway budget sets for the Country's premier State industry.

Economic Survey: There is a broad measure of agreement on the economic crisis facing the Country and the poor record registered in 1973-74 together on the way out of this situation emanating from the Union Ministry of Finance's Economic Survey placed before Parliament at the end of February, the NCAER's appraisal of the economy in 1973, the memorandum presented by 140 economists to the Prime Minister (which is summarised under the section on prices and corrective measures with the summary section reported in the other items section of this issue) and the World Bank's World Atlas of 1973 which reports on the economy

2 years ago in 1971. The Union government's Economic Survey like the NCAER survey and the economists' memorandum places the inflationary price situation and the stagnant industrial production as the main characteristics of the economy in 1973-74. It faces squarely the fact that the price rise which was 26 per cent at December 1973 compared to December 1972 was not dampened by the good Kharif crop which it estimates will result in a foodgrains production over the year of 110 million tonnes against the target of 117 million tonnes. As the price rise is the cumulative result of the 2 previous years' production losses, inadequate procurement, steep rise in international foodgrains prices, inadequate buffer stocks and large budget deficits, the survey points out that one good Kharif harvest could not bring about a stable balance between demand and supply. In fact it had no influence on continuing price rises because given the past 2 years' increases, traders and consumers have tended to hold larger stocks than normal. Under these conditions all the sources agree that the first task is to arrest inflation, the economists suggesting detailed measures to this effect and the NCAER pointing to the need to help people believe that such concrete action is being taken for tomorrow if not for today. The Economic Survey also calls attention to the low level of industrial production and investment in 1973-74. Domestic savings might have increased in 1972-73 over the 11 per cent in 1971-72, but aggregate investment remained at 12.2 per cent. Taking the 1973-74 efforts into account, public investment in industries is estimated at Rs. 2,700 crores during the Fourth Plan against the provision of Rs. 3,050 crores. Also power shortage and inadequate supply of raw materials have restricted industrial production during the year. The NCAER review, therefore, suggests that during the coming year Rs.1,000 crores be provided for oil imports, and Rs. 300 crores be set aside for import of steel and fertilisers, after making all efforts to increase their production. The other obstacles to industrial production that faced the economy in 1973-74—transport, coal, electric power and other raw materials shortages and bottlenecks and poor industrial relations can and should be remedied in the coming year by domestic action. On the positive side, there are four features to be noted. First despite our poor performance in world terms, where according to the World Bank Atlas 1973, India stands at the 103rd place in per capita GNP growth (in part as a consequence of standing second in population growth), the Economic survey estimates that 1973-74, will record a 6 per cent growth — mainly because of the recovery in agricultural production. To keep up this increase in agricultural production, there should be timely supply of inputs to the farmers and no decline in fertiliser availability. Second as noted in past issues of the Bulletin (Vol. IV pages 24-25 & 130-132) the export performance has been good with a growth rate of over 20 per cent but even here all the surveys caution against complacency, because a good part of the increased rate is due to increase in world prices of export goods and not so much an increase in physical volume; this kind of international commodity boom will not last, in fact with the oil crisis, the export markets in the developed countries may contract. Also import prices are rising fast. Hence there is need for a sustained effort on the export front. Third the public sector units for the first time in 1972-73 made a profit and this is continuing in 1973-74 (See Vol. IV pages 16-17 and 121-122). Here again their production upto capacity is needed in the coming year and for this the power, transport, raw materials and industrial peace they need must be ensured. Fourth the targets for resource mobilisation for 1973-74 and the Fourth Plan were over

fulfilled. The Union government alone raised Rs. 3,900 crores during the Plan period, to which must be added the Rs. 1,200 crores raised by the States. The Survey makes a case for a well thought out credit policy for particular sectors, and calls attention to the need to cut back on the constantly increasing non-development expenditures and a price policy based on systematic periodic reviews and adjustments of administered prices. Finally the Economic Survey as a pre-budget document draws certain conclusions on future fiscal prospects and possibilities. It refers to the high rates of direct taxation in the Country and suggests that the immediate task is not to further raise the rates but to counter the large scale evasion and avoidance of tax payments. On the other hand it is pointed out that there is scope for additional indirect taxes which if well structured and levied on luxury and semi (-) luxury items should not have a regressive effect. The inadequate effort made by the States to raise resources, particularly through agricultural taxation, will it is hoped be corrected in the coming year. The few hints on fiscal performance in this rather important union government document tend to divert attention away from its diagnosis of the economy which is of importance for the economy's development. In future reviews there could be less of comments on the working of the tax system. That could be undertaken in a separate 2 or 3 yearly review.

Fifth Plan : In light of the Budget constraints and the factors dominating the economy referred to earlier, the Fifth Plan was not finalised before 31st March. The price factor, the assessment of resources, the effects of the oil crisis on the payments gap, the parliamentary debate on the draft Fifth Plan, the effects of the Sixth Finance Commission award, and the comments of the National Development Council—all have to be taken into account in finalising the Fifth Plan. This will be done during the first half of the current year.

Prices and Corrective Action **: The** price rise continued through January. The Official index of wholesale prices on February 2, 1974 stood at 272.2 which was higher by 1.7 points over the previous week and 26.6 per cent higher than February 3, 1973. The price rises which affected most seriously the middle classes were food prices which rose during the one year period by 24.9 per cent, the highest increases being in edible oils (47.3 per cent) fish, eggs and meat (40.1 per cent), milk and milk products (40.5 per cent), fruits and vegetables (31.7 per cent) and cereals (23.3 per cent). Industrial raw materials rose by 40.7 per cent and intermediate products by 37.5 per cent. The base year for the index being 1960-61, it should be noted that according to the RBI reports money supply between 1960-61 and 1972-73 rose from Rs. 2,868.61 crores to Rs. 9,411.76 crores which was 228 per cent, and further to Rs. 10,334 crores or by a further 9.8 per cent up to January 25, 1974. Breaking down the supply of money into bank deposits and currency, bank deposits rose during the period 1960-61 to 1972-73 by 415 per cent and by a further 9.5 per cent upto January 1974 at Rs. 4,347 crores, while currency increased by 159.4 per cent during the 12 year period and by a further 10 per cent upto January 1974 at Rs. 5,982 crores. On the other hand bank credit has begun to decline in January and February by Rs. 30-40 crores. During the fortnight January 18 to February 1, bank credit fell from Rs. 7,024.74 crores to Rs. 7,002.65 crores. If the increase in food procurement credit from Rs. 370.68 crores to Rs. 386.27 crores is allowed for, the effective credit contraction in sectors other than food is of the order of Rs. 37 crores.

How far this contraction was industrially beneficial needs examination. There was a falling off in credit demand by the textile mills because of the strikes in Bombay and Tamil Nadu and the reduction in their inventories. Again the coal and furnace oil shortage has led to the slowing down of many industries, the closing of TISCO and so reduced the demand for credit. On the other hand there has been a fast rise in bank deposits by Rs. 1,800 crores in 1973 due in part to the rapid increase in branch banking. During 1973, 1,782 new offices were opened, 639 of them being in non-banked areas. For 1974-76, it is planned to open 2,111 more offices so that the current average of 1 branch for 33,000 people (down from 1 for 68,000 in 1969), can be further reduced to one branch for 25,000 people. What is equally important is the even spread of branch banking in all the States of the Union. On the price rise issue, deficit financing which for the Fourth Plan was estimated at Rs. 850 crores but which is actually of the order of Rs. 3,000 crores, (the last year showing a deficit of Rs. 650 crores) and contributed to the inflationary spiral also needs to be taken into account. The government reports that of the saving of Rs. 400 crores planned for the current year (See Vol. III page 782), a reduction of Rs. 371.51 crores has been achieved. But inflation continued its course as the single most serious fact of the economy. It is against this worrisome background of continuous and persistent inflation, that 140 academic economists, members of the Indian Economic Association presented a memorandum to the Prime Minister at the end of February on " A Policy to contain Inflation ". Its basic analysis is that the inflation is due to an excessive imbalance between the annual rate of growth in the stock of money and in the stock of basic consumption and related production necessities. It refers to the increase in bank credit by 87 per cent between January 1970—January 1974, the high 20 per cent annual increase in money supply, the increase in government outlays without an increase in non-inflationary sources of receipts, the credit upsurge to the commercial sector, the slow and halting rate of increase in the production of necessities which was jointly due to the slow down in the pace of basic capital accumulation and the fall in the incremental ratio of output of basic necessities to investment, the low level of inventories of necessities which has made public distribution ineffective, and the labour management disputes which have all contributed to the prevalent economy of shortages. It computes the amount of black money at Rs. 10,000 crores by assuming an income velocity of 5.0 to 5.2 which gives a net product of around Rs. 49,000 crores against the official estimate of Rs. 38,900 crores in 1972-73. Against this background it proposes (a) establishing a ceiling of 5 per cent per annum in the annual growth rate in money supply during the Fifth Plan, (b) reducing substantially the government's borrowing target which the Draft Fifth Plan places at Rs. 3,390 crores from commercial banks, Rs. 1,500 crores by Central and State enterprises and Rs. 813 crores as market borrowing, (c) improving the operational efficiency of public enterprises to contribute to savings, (d) planning credit which means imposing a 10 per cent Bank rate, reducing dependence of industry on bank credit through economies and depending on higher retained profits, giving small firms more credit and preventing use of short term credit for long term operations, (e) making a once over 30 per cent reduction in the Country's money supply through such a cut in all current deposits, exchanging savings certificates for high denomination notes and using the blocked account technique, (f) increasing taxation of agriculture to 3 per cent of net agricultural output, higher excise duties on luxury goods, a cut back on permissible business

expenses, (g) freezing salaries, wages, profits and dividends, (h) organising a strong public distribution system through a sound buffer stock and relative prices system, (i) stepping up food production through a variety of measures including massive subsidies to farmers by the government and (j) reviving the savings investment process to combat industrial stagnation. The fairly close correspondence between these proposals and the diagnosis of the Union government's economic survey may be noted.

National Production Front:

Industrial Performance: The performance of the industrial sector in 1973-74 was referred to in general terms in the section Economic Survey as well as in the last issue (Vol. IV page 182). The public sector undertakings turned the corner as from 1971-72 as pointed out earlier. The Reserve Bank (Febrnary) Bulletin's study of 121 government companies shows that their total production increased to Rs. 2,552 crores by 15.8 per cent, their total sales to Rs. 2,474 crores by 17.6 per cent, their profits before tax Rs. 2 crores against a loss of Rs. 12 crores in the previous year. The 64 Union government companies with a total paid up capital of 1,700 crores registered a gross assets formation of Rs. 467 crores financed to the extent of 69 per cent by external sources, while the 57 State government companies, with a total paid up capital of Rs. 105 crores registered an income of Rs. 26 crores and an expenditure of Rs. 21 crores. This study covering 74.5 per cent of the aggregate paid up capital of all government companies is thus representative of improving performance of the public sector. This was one of the reasons for the somewhat optimistic forecast of industrial production for 1974-75 given by the Union ministry of Industrial Development to the Parliamentary Consultative Committee in which the improved availability of steel, power, cotton, groundnuts and jute was forecast, while the constraints of industries based on crude and plastics were also stressed. Along with the plans to speed action in all industries to switch from furnace and fuel oil to coal, an increase in steel production from 5 to 6 million tonnes, coal production of 90 million tonnes and expansions in sugar, cement, textiles are forecast for the year with prospects for exports in the last group of products. Another study of our industrial progress is the 1972-73 survey of the 101 largest industrial firms by the Economic Times Research Bureau following up its survey of the firms in 1971-72 analysed in Vol. III page 238 of the Bulletin. The 1972-73 survey shows that continuing their 1971-72 record, the 101 largest firms in the private sector grew at a slower pace, at 7.7 per cent compared to 8.2 per cent a year earlier. Their sales turnover rate of increase also declined from 21.1 per cent to 9.6 per cent, with a small 1.4 per cent rise in gross profits. Taking both the public and private sector units together, last year's ratings remain undisturbed, with TISCO being in the 10th and TELCO the 15th place. Internationally our biggest firm, Hindustan Steel, occupies the 369th place of 646 top units. Below the 101 top firms are some 100 medium firms with assets ranging from Rs. 11.4 crores to Rs. 22.6 crores where only 11 are public sector units. Here too the rate of expansion of this group was lower in 1972-73 at 6.4 per cent compared to 7.8 per cent in the previous year. The general conclusion of this study is that the overall improvement in the profitability of the private sector which was halted in 1971-72 continued to decline in 1972-73 (from 11.1 in 1971-72 to 10.5 in 1972-73). The industrial panorama thus is a mixed one—with an improving trend in the

public and declining one in the private sector. In this connection, a recent study of the Heavy Engineering Corporation which shows that the production targets are unrealistically established might have wider general interest. The Heavy Machine Building Plant (HMBP), was established with 80,000 tonnes capacity, the Foundry and Forge Plant (FFP) 1.17 lakh tonnes, the Heavy Machine Tools Plant (HMTP) 278 machines. Its performance is improving, FFP producing Rs. 11.56 crores, HMBP Rs. 71.44 crores and HMTP, Rs. 59 lakhs. The study showed that the HMBP product mix would require 2.69 million machine hours to attain 80,000 tonnes, whereas it was provided with only 1.78 million hours, which means its capacity is only 50,000 tonnes and not 80,000 tonnes, and even for this lower capacity it will require some balancing equipment. Its structural shop can produce only 500 tonnes and not 2,000 tonnes as indicated in its project report. Similar cut backs on the reported capacity for FFP and HMTP are suggested in the study. Further it also points out that the performance of an engineering factory should not be assessed in terms of tonnage, as this does not indicate the machining, fabrication and assembly hours required for a product mix, which itself varies from year to year. One result of expressing its performance in tonnage was that HEC took on items of high tonnage in order to achieve its targets in tonnes, passing by small tonnage items of high value and importance. The result was that it did not completely supply its customers' needs as it did not produce the smaller parts. Performance should therefore be examined in terms of timely supplies, quantum of supplies of equipment and components, annual out-turn and profitability, given the prices. Finally the study shows that the Corporation is over-capitalised in relation to its capacity in that of its capital of Rs. 194 crores, only Rs. 84 crores were spent for plant equipment and machine tools and the rest on civil works, erection of plants, and foreign collaboration. These lessons have wider application for the public sector companies and in the assessment of their performance.

Steel : February saw a disastrous situation in the steel production front. All steel plants were seriously affected by lack of coal and coke supply. TISCO which had just reported improved production for the quarter ending December 31, 1973 over the previous quarter (production of saleable steel rising from 2,96,500 tonnes to 3,37,000 tonnes, despatches from 2,67,600 to 2,79,800 tonnes and sales from Rs. 36.95 crores to Rs. 47.19 crores) closed down in February because its coal stock was exhausted. It just kept its coke oven and batteries going and was losing 3,000 tonnes of finished steel a day, representing 80 per cent of the plant's capacity. All the other steel plants were also forced to reduce the capacity of their coke oven batteries from early February following the disruption of the wagons movement caused by the railway men's dispute. Bhilai had stocks only for a day and half and one of its four blast furnaces and 3 of its 8 openmouth furnaces were closed. Rourkela had coal for 24 hours only. In early February, 2,750 coal wagons were reported to be stranded. Even with no labour disputes in the railway, coal movement to the plants had declined causing a shortfall of 1,000 wagons a day. Further the washeries' deficiency involved the supply of 8.5 lakh tonnes a month, against a normal demand of 11.65 lakh tonnes of washed coal to Bhilai, Rourkela, Durgapur, Bokaro and IISCO. The poor quality of washed coal containing about 25 per cent ash against the permissible maximum of 15 per cent were damaging their furnaces. On top of this Durgapur

had to shut down its alloy steel plant due to the DVC power cut. The alloy steel industry had despite various handicaps done well, meeting 65 per cent of the Country's demand through its output of 3.5 lakh tonnes. To meet the entire demand which will be 7.9 lakh tonnes by the end of the Fifth Plan, its input of steel scrap or its alternative of sponge iron must be adequately available. This is possible if present plans for setting up sponge iron plants in the Gulf countries using their natural gas are carried through. Another input which must be produced more adequately is basic refractories which Durgapur, Bokaro and Salem will increasingly need. There is need for standardising the operations in the alloy field which is being undertaken by ISI. Meanwhile the existing alloy steel plants should be upgraded and modernised as is the case for Durgapur, Bokaro and Salem, before any new units are established. Despite the problems faced by the plants, IISCO reported increased production in January both of saleable steel and ingots. Bokaro reported production of 1 million tonnes of pig iron by February end. All plants reported increased earnings mainly because of the price rise on October 15 (See Vol. III page 702). The increased earnings of Rs. 20 crores should be ploughed back for expansion and improvement of the plants. This increased income would be even higher if the mounting steel stocks in the plants referred to in the last issue (See Vol. IV page 185) were reduced and moved. The current demand can be met by existing production and the 1 million tonne import referred to earlier (under the Economic Survey section) if the 2,50,000 tonnes of saleable steel and 55,000 tonnes of pig iron lying in the HSL plants, costing Rs. 30 crores are moved. Also there is need for improving and modernising the distribution system. Here if the government can accept and act on the many recommendations of the joint plan committee for streamlining the distribution and pricing of iron and steel and making the allocations on a half yearly basis, there would be considerable relief to the consumers. Also the number of stock-yards should be increased to 50 and a mechanism should be set up for exchange of unwanted steel or excess inventories, of which there is some 12 or 13 lakh tonnes in 60 industries that had been surveyed in a recent study. For this year total steel production is estimated at 5.8 million tonnes ingot and 5.5 million tonnes of saleable steel. Against this general background the targets for steel for 1974-75 referred to in the last issue (Vol. IV page 185) have been revised slightly upward—to 7.47 million tonnes of ingot steel and 6.19 million tonnes of saleable steel. This means for Bhilai 22.5 lakh tonnes of ingot steel and 17.7 lakh tonnes, of saleable steel, for Durgapur 7.7 lakh tonnes and 6 lakh tonnes, for Rourkela 13.5 lakh tonnes and 9.1 lakh tonnes, for TISCO 18.7 lakh tonnes and 4 lakh tonnes for IISCO 6.6 lakh tonnes and 5.1 lakh tonnes. Electric furnaces will produce 10 lakh tonnes of saleable steel and Bokaro 8.8 lakh tonnes of pig iron. To achieve these modest targets 2,500 coal wagons must be moved per day against the current 1,900 wagons, involving a 25 per cent increase in coal movement.

Coal: The situation with regard to coal supply to the steel plants just referred to as well as to thermal plants, cement units and even railways was perilous in the month of February. The reasons for this coal position were being bandied around between the Mines Ministry stating that it had large stocks of coal awaiting transport, the entire fault being with the Railways and the Railway Ministry blaming the Mines Ministry because there was simply not enough coal available for all the steel plants. Both ministries also join

in blaming the steel authorities for not building up adequate stocks of coking coal when there was no trouble in the railways. Once more it is dificult to disentangle facts from this round of charges and countercharges (see Vol. I No. 10 page 5, Vol. II No. 5, page 3, No. 8 page 10 and No. 9 page 12 and Vol. III pages 314-315, 398-399). Some facts however stand out (a) The actual production capacity for coking coal in the Country is 15 million tonnes a year (Bharat Coking Coal (BCC) 10.5 million tonnes, National Coal Development Corporation (NCDC) 2.2 million tonnes, TISCO & IISCO mines 2 million tonnes and Coal Mines Authority (CMA) 0.8 million tonnes). Without Bokaro's needs, the steel plants' needs are 16 million tonnes a year, so that even with capacity production there would be a supply shortfall of 1 million tonnes. (b) Actually BCC has produeed only 9 million tonnes and the SAIL mines also produced below capacity because, they state, there was shortage of power, explosives, wagons and materials. (c) Against the net reserves of 4,015 million tonnes of coking coal assessed by the Coal Advisory Council, and with the production of less than 14 million tonnes this year, the draft Fifth Plan target of 32 million tonnes of coking coal against the targetted 135 million tonnes of coal seems ambitious. (d) For this year, 1974-75, the Coal department's expert studies indicate that a production of 90 million tonnes of coal is possible. This increase of 10 million tonnes in one year (if last year's production was really 80 million tonnes) if attained will be a record. So far the highest increase has been 4 million tonnes in 1968-69. (e) This target can however be attained if (i) the necessary additional wagons estimated at 1,500 a day over and above the daily average of 8,000 wagons are available so that the railways can carry 75 million tonnes, (ii) the Bengal-Bihar railway belt is strike free, (iii) there is a system of incentives to prod the speedy loading and movement of wagons by railway staff and (iv) coal mining is spread out throughout the Country and open cast mining is resorted to. Meanwhile the railway authorities have evolved a rationalised pattern for moving coking coal to the washeries and washed and blendable coal to the steel plants. Similarly more coal is be moved to the thermal plants and to meet industrial needs.

Crude: The import of crude for 1973-74 will have been 17 million tonnes, because the switchover to coal as a fuel base will take time, so that reliance on crude and petroleum will continue for at least half way through the Fifth Plan. 9.4 million tonnes will have been imported from Saudi Arabia and 4.7 million tonnes from Iraq. This means that the crude import bill will be Rs. 1,200 crores for 1973-74, well beyond the Rs. 1,000 crores forecast in the NCAER survey. Crude imports for the year are assured except for 2 million tonnes. This has in part resulted from the February agreement with Iran which has agreed to make additional supplies of crude oil over the next five years and to extend some financial facilities for its payment. For this year it will supply an additional one million tonnes of crude. The Madras Refinery in which Iran's National Oil company is participating is to be expanded from its current 2.8 million tonnes capacity to 3.5 million tonnes. The Iranian Company will supply the Madras Refinery with 42 million tonnss of crude over a period of 5 years. In return with the help of $300 million from Iran, iron ore mines along with the facilities for transportation and pelletisation will be established at Kudremukh in Karnataka, and 2.5 million tonnes of pellets and pellet feeds will be exported to Iran. Also with a credit of $60 million from Iran, 1,00,000 tonnes of alumina will be supplied to it.

This is the kind of bilateral expanded trade arrangements that are being negotiated also with other gulf countries. The commerce Ministry's plan is to expand our exports to these oil producing West Asian Countries from the current Rs. 92 crores, to Rs. 234 crores next year, Rs. 354 crores in 1975-76 and Rs. 447 crores in 1976-77. It is also of the view that the price is likely to be stabilised at around $8 per barrel on the basis of the views expressed by major oil producing countries, as against the $11.65 OPEC price and the $10 price forecast in the last issue (See Vol. IV page 187). Kuwait however was selling at the OPEC price of $11.54 right through February. For the present the squeeze in the Country's foreign exchange resources continues. In addition to the price rise requested by Burmah Shell and Esso discussed in the last issue (See Vol. IV pages 186-187), Caltex requested an increase from January 1 to $8.91 per barrel of light Iranian crude. In addition it has asked for a price rise from $3.81 to 4.15 for the earlier period from October 1973 to January 1974. Burmah Shell also is requesting such retroactive increase. Against this background short term and long term programmes are being launched to deal with this crisis situation. First there are the various programmes to reduce the consumption of crude. Since the November price rise, there has been a 25/30 per cent cut in petrol consumption. Further a limit of 300 litres of petrol for ministers and a 15 per cent reduction for other government servants were brought into effect from January. Similarly the 20 per cent cut in Kerosene from February is aimed at increasing the production of diesel and furnace oil whose demand at 4,05,200 tonnes in November outran the production of 3,27,700 tonnes. In December the demand was 3,93,C00 tonnes and production 3,78,500 tonnes. When in January also despite the production increase to 3,91,400 tonnes, the demand further increased to 4,05,200 the governmen increased the cut of kerosene supplies from 15 to 20 per cent to increase the production of fuel oil. Third, work is in progress to reduce the consumption of diesel and fuel oil. The Union Transport Ministry is cutting out some long distance and small feeder routes to reduce the consumption of diesel oil. While the transport system of the 4 metropolitan cities is to be increased and mini buses and taxis allowed to operate from point to point, greater use of truck trailer combination is proposed for carrying freight, as that will result in a fuel saving of 14.25 per cent. Such a combination will also involve economy in investment as the cost of producing and the gestation period for trailer production is lower than that for trucks. In addition the government has begun reducing the supply of furnace oil to industrial units. In February the supply of furnace oil to industrial units in Bombay was cut by 33 per cent. The Punjab government in February introduced rationing of diesel oil to meet the shortage and irrigation demands. The standing committee of the Union Ministry of Petroleum and Chemicals is also reducing supplies to units which are not economising its use or converting to coal. No new customers for furnace oil are being enrolled without prior approval. Thus the total consumption of furnace oil by all industries, including small units, now amounting to 4.4 million tonnes a year will be reduced on the basis of the DGTD's fourfold classification of industries which cannot switch to coal, those which need large investment and 3 years for switchover, those which can switch in 6 months and those which can do so immediately. Thermal plants and cement units belong to the last group, while textile, glass and paper belong to the second. The Union Planning Commission has also set up a series of study groups to propose alternative energy sources for 50 plan schemes.

One group is studying power plants and switching to coal, a second industries which could also be converted and a third group improvement in mass transport. The success of this whole programme of course depends on the adequate and prompt availability of coal. Fourth, railways which are major consumers of diesel can plan for big thermal power units at the site of the coal mines in Bihar, Orissa, Madhya Pradesh and Andhra Pradesh. Also low temperature coal carbonisation plants can be built in these places to produce soft coke, tar and gas for power plants and industry. The Regional Research Laboratory, Hyderabad, has been asked to work out plans for setting up coal gassification plants to be followed by coal grids for the North and South, as an alternative to petroleum fuel. Fifth, the reduction in petrol production and consumption referred to earlier has brought about an increase in naphtha supply. For the present the increased supply of naphtha is being exported because our fertiliser factories are not able to use it. In the Gujarat refinery, the storage tanks are overflowing with naphtha. It cut down petroleum production by 25 per cent but the additional naphtha is more than the neighbouring Gujarat State Fertiliser unit and the petro-chemical complex can absorb. The price of naphtha in the world market is very high and so its export for the present is also a good exchange earner. But this is only a short term problem. When the new ammonia plants at Mangalore, Tuticorin and Barauni go on stream not only will all the naphtha available be used, there may be need to convert some of naphtha oxidation units to fuel oil at the fertiliser plants at Gorakhpur Trombay, FACT and EID Parry, as suggested in the last issue (Vol. IV page 187). In this connection, in February for want of adequate crude supplies and the petroleum product prices, refineries were stated to be losing Rs. 1.5 corres a day. If this is so then the prices of the products had to be raised, without of course any further increase in excise duties. And this was done on March 1, petrol going up by 34 paise per litre, kerosene and HSD by 15 paise per litre, cooking gas by Rs. 10 per cylinder, naphtha by Rs. 1.26 per litre, and lubricants and greases by Rs. 3,000 per tonne. Except in the case of HSD, kerosene and cooking gas, the price increases reflect fully the increase in oil prices from $3.58 per barrel to $10 per barrel. In the former 3 products, the full compensating would have been 45 paise per litre for HSD and kerosene and Rs. 8.50 per cooking gas cylinder. These increases will have an inflationary effect. Finally the search for oil within the Country received its first reward in mid February when Bombay High struck oil at a depth of 962 metres. The pressure of oil flowing out was 500 pounds per sq. inch with clear consistency and adequate gravity indicating that it is a commercially viable find. ONGC should now further intensify its offshore and onshore explorations in all appropriate areas. For this purpose the Union government is acquiring majority equity interest in Oil India in order to intensify its oil exploration in Upper Assam and Arunachal Pradesh as forecast in the last issue (Vol. IV page 188). Also as there reported, the government introduced legislation in the Lok Sabha in February to take over ESSO which will be renamed Hindustan Petroleum Corporation. The takeover of 74 per cent equity shares will involve payment of $3 million as principal and $4,26,557 as interest over 3 years. On the international front, further to the report in the last issue, Iran, the World Bank and IMF agreed at the end of February to establish a $2,000/$3,000 million development fund by contributions from the oil producing countries to help the development of the developing countries. Iran has agreed to

contribute $1,000 million to the fund. By the end of February, Mexico had formally supported the proposal and asked for an extraordinary meeting of OPEC to finalise this important development initiative.

Textile Machinery: Against the installed capacity of Rs. 118 crores, the 1973 production of the textiles machinery industry was Rs. 85 crores, a Rs. 10 crores increase over 1972. The long term modernisation needs of the textile industry are of the order of Rs. 1,250 crores according to the Chairman of the Indian Cotton Textile Mills Association. About 65-70 per cent of this demand can be met indigenously and the rest will have to be imported. In this concection, the February visit of the U.S. textile machinery and equipment mission was used to exploring the possibility of purchasing some of the sophisticated machines needed from the U.S. One factor to be borne in mind is that the textile machinery needed and used in this Country should relate to the state of our factor endowment. The industry must be labour intensive whereas the equipment from the U.S. and affluent countries tends to be capital intensive and saving on labour. Also the delivery time for imported equipment is more than double that of indigenous machinery.

Small Industry: In February, the Union government announced the reservation of 53 additional items ranging from agricultural implements to bicycle tube valves, drawing and survey instruments, IF transformers. centrifugal pumps, stranded wire to adhesive insulating tape. This means that 177 items are now reserved for the small scale sector. 23 of the 53 items are so completely reserved and any units not in the small sector now producing any of them will have to cease production of these items within six months. In the other 30 items, no new proposals will be entertained by the DGTD from medium or large units in the future. The small scale and ancillary units should now extend their productive activity to cover wholly these 53 items.

Tyres: Negotiations were continuing in February between the Union government and the tyre companies on the collaboration agreements. 6 out of the 7 companies had requested renewal. Firestone's request was rejected as it is a 100 per cent foreign company with no expansion plan. In the case of Ceat requesting renewal from June 1969, Good Year from September 1971 and Dunlop, the renewal would be granted subject to (a) the technical service (royalty) fee to be remitted is reduced from 3 per cent to 2 per cent of expanded and not total capacity and (b) the technology is passed on to CSIR laboratories. Madras Rubber which wants its renewal from April 1973 and Premier from February 1972 are having their requests examined. All the companies have made a strong case against the 2 conditions being laid down by the government for renewal. Their view is that such a reduction in royalty will reduce the incentive to invest in India, will weaken the companies in a highly competitive world and will make their R&D not worthwhile if the secrecy barrier is removed. The government is however, on the right lines and should back its position up by establishing 2 public sector units in tyre production as suggested in last issue Vol. IV page 245 (second article).

Shipping and Ports: Shipping is in short supply and the Fourth Plan closes with the ships acquisition programme unfulfilled. The Fifth Plan target is 7 million tonnes which must be met. The Cochin Shipyard is being modified to turn out 4 ships a year which means that it will provide 1¼ million tonnes of shipping puring the Plan period. The other side of

the problem of shipping is the port facilities. All exporters have suffered delays due to poor facilities. The Fourth Plan investment target for the 8 major ports plus Tuticorin and Mangalore being developed as major ports was Rs. 309.5 crores, while the actual expenditure was 247 9 crores. Hence it is not surprising that against the target for the 10 ports to handle 77 million tonnes of traffic, they actually handled only 59 million tonnes. The inadequate loading and unloading facilities, of which a dramatic example is the 3 foodgrains ships in the Madras port referred to in the State section, has involved a loss to the Shipping Corporation of 2 per cent of the total freight earnings for the year. Quantitatively the Country has 230 ports, with 165 in active use and only 10 being in the major port category. Though India is 16th among the maritime countries, it has less than one per cent of the world tonnage of 268.3 million GRT and 2 per cent of the world sea borne trade. The one positive development during the year and the Plan period was the trend for a rational distribution of the traffic as between the 10 ports. Now it is essential that the ports should be equipped with modern equipment to handle bulk cargo which will increasingly be the dominant freight in crude, fertilisers, metals and steel during the Fifth Plan. This is needed for the growth of our export trade and to keep down the constantly rising port charges and freight rates.

Newsprint: The current year's newsprint shortage will continue into the first two years of the Fifth Plan. For 1973, 99,165 tonnes were imported according to the government report to the Lok Sabha, (38,359 tonnes from the Soviet Union, 34,767 tonnes from Canada, 14,531 from Bangla Desh, 5,363 tonnes from Scandinavia, 2,745 tonnes from Poland and 2,400 tonnes from Czechoslovakia). It is hoped that contracts made by STC during 1973-74 for 1,26,700 tonnes will be more fully and promptly delivered, particularly from the U.S. and Canadian suppliers.

Sugar: As reported in the last issue (Vol. IV page 191), the current season's sugar production is off to a slow start. For the first 3 months, October-December 1973, the output was 9.82 lakh tonnes against 11.72 lakh tonnes for the same period in 1972. The total despatches for that period were 8.65 lakh tonnes for internal consumption and 99,000 tonnes for exports compared to 8.67 lakh tonnes for internal consumption and 5,000 tonnes for exports in the first 3 months of 1972-73 season. The export is also due to the phenomenal rise in the World price of sugar which is more than £300 per ton. In February the price ranged from $550 to $630 per metric tonne. There seems to be no end in sight for the spiralling of world sugar prices. By the end of February, the reports of the Tariff Commission on Sugar and the Sugar Industry Inquiry (Bhargava) Commission were presented to the government. The Tariff Commission's recommendations were: (a) the government should ensure equitable cane distribution to the 3 competing uses to avoid marked variations in sugar production; (b) if the industry does not keep the free market price of sugar within reasonable limits, the government should vary the ratio between levy and free market quotas to keep the free market prices down; (c) concerted and co-ordinated efforts will be needed to meet the 1,770 lakh tonnes cane requirements by the end of the Fifth Plan compared to the 1971-72 output of 1,154 lakh tonnes; (d) a reasonable return would be Rs. 12.60 per quintal to meet dividend payments, interest charges and reserve fund transfers; (e) the industry as a whole does not need a rehabilitation allowance as individual sick units problems can be separately examined and aided by the more affluent units; (f) some incentives should be

given to beet production and beet sugar output and the controlled price of cane should be remunerative so as not to lead to diversion of cane land to other products; (g) the cane areas near the mills should be earmarked for cane growing to reduce the cost of cane transport, a principle to be used in licensing new or expanded capacity in sugar production; and (h) further study of the price of molasses for industrial purposes is needed given the new demand for industrial alcohol in light of the oil crisis. This set of recommendations should be implemented rapidly. The other report, the final report of the Bhargava Committee, (See Vol. III page 483 for its interim report), has come out with the recommendation to nationalise the sugar industry, except for the co-operative sector. This recommendation is a majority one, with minority notes against nationalisation. In view of the widely varying conditions of the industry and the effective functioning of mills in Tamil Nadu, Andhra Pradesh and Maharashtra, action on nationalisation of the industry might be counter productive. The other 2 recommendations of the Commission should first be acted on. One is for the government to take over the wholesale trade in sugar through setting up State Sugar Corporations responsible to a National Sugar Commission which should manage the trade. The other recommendation which should be acted on is to set up a National Sugar Authority which will be responsible for development work and expansion of the industry. The Commission has not accepted the suggestion for differential rates of recoveries for the North and South and has recommended a uniform linking of the statutory minimum to an 8.5 per cent basic recovery for the whole Country. This too needs further study and review.

Agricultural Production: The procurement of rice referred to in somewhat positive terms in the last issue (See Vol. IV page 194) with some lag in coarse grains procurement, recorded a slow down by the end of February. Rice procurement amounted to 3.8 million tonnes against the 5 million tonne target, while coarse grains procurement amounted to 15,000 tonnes against a target of 1.65 million tonnes. Punjab, U.P., Haryana and Andhra Pradesh had fulfilled over 70 per cent of their rice targets, with Assam and Maharashtra catching up. Some States like Maharashtra which at January end procured 1.72 lakh tonnes against 3 lakh tonnes target felt that they would exceed the target—to 4.6 lakh tonnes. But its Jawar and bajra procurement is poor—1 lakh tonnes against the target of 7 lakh tonnes. Bihar, West Bengal, Orissa and Madhya Pradesh were lagging in rice procurement. Tamil Nadu, where the harvest started in January, also has to catch up. In face of the serious coarse grain scarcity situation in Gujarat and Maharashtra which led to food riots, gheraos and violence, the Union government lifted in February the restrictions on inter state movement of foodgrains for State to State transactions. As a result Gujarat and Maharashtra governments purchased bajra and maize from Punjab and Haryana. The rabi crop prospects are giving rise to anxiety. The prolonged dry spell and excessive cold in Punjab and Haryana have adversely affected crop prospects. The severe cold spell and lack of winter rains have damaged the standing wheat, gram and vegetable crops. The regular watering of the fields has become difficult because of the sudden power cuts and load shedding in Punjab and Haryana. Wheat growing areas in Rajasthan reported some damage due to rust. In U.P. it is estimated that the rabi crop in 1974 will be

25 per cent smaller than in 1973 because of (a) the serious fertilisers shortage, (b) the disruption in irrigation caused by power cuts, and diesel oil scarcity, (c) reduction in HYV areas and (d) damage due to the frost during the last 2 cold waves. The shortfall extends to all crops—wheat, grams, pulses, mustard seeds, sugarcane, sugar beet and shortstaple cotton. On top, the expected shortfall has led to an increase in hoarding. The windfall profits made by farmers last year have given them the cash resources to increase their stocks and hoards. And in all these States the price factor has led to the diversion of some wheat lands to growing gram or cane which gives them a better return. It is against this background that the recommendation of the Agricultural prices Commission to fix the 1974-75 procurement prices of wheat at Rs. 90-100 per quintal against the support prices of Rs. 80-85 per quintal for 1974-75 (See Vol. III page 699) and the 1973-74 procurement prices from Rs. 72-82 (See Vol. III page 404) should be seen. The higher procurement prices will not only ensure improved procurement at a time when the prospects are dim and when the government has no cushion of foreign exchange to import wheat. The higher price will also compensate the higher costs of fertilisers, fuel oiland pesticides and if the Draft Fifth Plan appeal to the States is followed, higher power and irrigation rates that the farmer faces. There is a problem here. Higher procurement prices, followed by higher issue prices will avoid the subsidy burden on the government but will set off further inflationary pressures and will be hard on the poor majority. Higher procurement prices without higher issue prices will make for deficit financing and add to inflationary problems. It is for this reason that the Ministry of Finance's Economic Survey seems to rule out an increase in procurement prices while asking for a vigorous procurement campaign and an improved distribution system. An increase in procurement prices is unavoidable. It is preferable to importing wheat. The Conference of Chief Ministers meeting at the end of March will have decided on the procurements price issue in light of all factors. In regard to current and future problems, the Punjab Agricultural University is at work developing high yielding dwarf basmati rice varieties. To meet the export demand, these varieties are being widely popularised as part of a comprehensive outline of future prospects facing the Punjab farmers. The emphasis is on yield, stable performance, early maturity, resistance to disease and pests and better quality. These apply particularly to summer crops—bajra, pulses, oil seeds, maize. The other serious problem facing the Country is the increasing health hazard posed by the careless use of pesticides. The Country imports 40 kinds and produces another 44 varieties of pesticides, resulting in using 40,000 tonnes of these chemicals, which next year will increase to 70,000 tonnes. Because of their careless use, toxic chemicals have been detected in all that we consume—vegetables, curry powder, wheat and wheat products, milk, water, butter, animal feed, oil seeds, woolen garments. According to CFTRI, the Indian diet contains 0.27 mg. of DDT so that the level of DDT in the body of the average Indian is the highest in the world, though our per hectare pesticide consumption is the lowest at 180 gm compared to 1870 gm in the U.S. and 10,970 gm. in Japan, 50 per cent of our vegetables contain pesticides exceeding the tolerance limits, making raw vegetables hazardous to eat, all milk samples examined at IARI contain pesticides as do wheat, jawar and jawar flour, 30 samples of grapes, laddu, chillies potatoes. These doses act as slow poison on the liver and nervous system and cause hay fever, asthma, ear disease and even insanity. It is now urgent that the Insecti-

cide Board, control the manufacture, import and use of pesticide and all those working with the farmer help him regulate its use. On the nutrition side, with the Fifth Plan programme in food and nutrition, the recommendation of the FAO and ECAFE seminar in Delhi in February to (a) set up a public sector company to produce nutritious food for supplementary feeding and (b) build an Asian food buffer stock are of interest and should be examined from the point of view of their financial feasibility and pay off in comparison with alternative ways of providing for the nutrition programme and building food buffers.

Exports: The need for a national policy on exports recommended by the export convention in Delhi in February in face of urgencies facing the Country is further heightened in light of the differing views within the Union government for attaining this agreed objective. The Commerce Ministry is of the view that India's image as a supplier of quality goods is established (this is too generalised a statement), that it has comparative cost advantages in most export items, so that the only condition needed is adequate and increasing industrial production The Union Ministry of Industrial Development is of the view that the tax system is much too heavily revenue raising oriented and there should be a system of incentives to ensure competitiveness in export promotion. The finance Ministry is of course chary of too many and too much subsidies for anything including exports. But these 3 policies are not alternatives. They are complementary and must be pursued in such a manner that they are mutually reinforcing. The export situation today is good 20 per cent increase during the April-December 1973 period and 22 per cent increase in 1972-73. But imports also rose in the first 9 months of 1973-74 to Rs. 1,391 crores, giving a trade deficit of Rs. 93.7 crores. Given the need for an expanding export effort to pay our way through the oil crisis, the problems of the short term nature of the international commodity boom, the shipping bottlenecks and the problems faced by each of our export items—tea, leather, textiles, jute goods, engineering goods — should be examined and resolved. In each case there should be expanding production, improving quality and a special drive for exports. In this context the Industrial Raw Materials Assistance Centre's plan to make available 11 critical imported raw materials to exporters and producers on an advance basis will push up exports. The 11 items are all in short supply—soda ash, citric acid, rayon grade wood pulp, bicycle tyres and tubes, multi speed hubs, dynamo bulbs, glycerine, phenol, melemine, acetylene black, benzene and craft paper. This action of STC and its IRMAC division has been long needed. February also recorded receipt of a number of export orders and agreements. STC concluded agreements with Iraq for Rs. 1.5 crores of cotton textiles, Rs. 65 lakhs of jute goods and for setting up an integrated textile mill for Rs. 60 crores. It exported 28,000 tonnes of castor oil valued at Rs. 23 crores in the past year. A pact with Kuwait was signed to expand the trade between the 2 countries, (India's trade deficit with Kuwait being around Rs. 10 crores) and for the establishment of joint projects. Textile exports continued to expand, January totalling a record of Rs. 27 crores, cotton piece goods exports alone being Rs. 20 crores. To some extent the increase is due to the price increase. But there are long term factors giving Indian textiles an edge in exports. These factors include the rise in cotton prices and the steep rise in labour costs in other textile producing countries. MMTC exports also show a 12 per cent rise in 1973-74 over the previous year at Rs. 116 crores primarily due to increased exports of 12 million tonnes of iron ore

(Rs. 71 crores). But even these 12 million tonnes exports is lower than the target of 13 million tonnes and the 14 million tonnes that could have been exported, if railway wagons had been available. Here again the price rise has played a part. The Corporation secured a 16 per cent increase in the ore price supplied to South Korea, which is a newly found iron ore market. A long term contract to export 11.4 lakh tonnes of ore over a 4 year period beginning in January 1972 has been concluded with South Korea (See Vol. III page 709 & Vol. IV page 25 for similar arrangements). Groundnut exports have shot up due to failure of the crop in Nigeria. Of the 50,000 tonnes contracted since September 1973 for delivery to U.K., Europe and Japan, 25,000 tonnes have been shipped. This export of course reduces the supply in the Country which is facing shortage of oil seeds and oil. To some extent the increased foreign exchange earned by the export can be used to import other edible oils — palm, soya bean, sunflower oil. 100 printing presses were exported to the United States by an Indian firm specialising in manufacturing presses. Also in February Australia announced tariff cuts ranging from 33 1/3 to 75 per cent for goods from developing countries. This non-reciprocal non-quota scheme of preferences will help the export of many non-traditional items from India to Australia. The Jute Corporation of India accepted export orders for 1.8 lakh bales of raw jute and by February had shipped 58,000 bales. Here again the acute shortage of shipping stands in the way of fulfilling the target of 5 lakh bales export In February again a Soviet mission visited India and placed orders for Rs. 1.7 crores knitwear from 13 hosiery firms, 14,000 tonnes of tobacco from 16 firms and Rs. 2 crores for 10 lakh pairs of shoes. Further, export earnings from bleeding Madras fabrics have registered a 43 per cent increase during April–November 1973 compared to the period last year. Here again it was the value which shot up from Rs. 10.38 lakhs to Rs. 14.85 lakhs, with only a small increase in quantity, from 2.25 lakh metres to 2.62 lakh metres. In these handloom varieties and others, export of silk fabrics increased by 28 per cent in quantity in 1973 over 1972 (from 45.77 lakh sq. metres to 58.22 lakh sq. metres) and by 51 per cent in value from Rs. 7.6 crores to Rs. 11.48 crores. West Germany, France and Malaysia in that order were the major consumers of Indian handlooms and mulberry and tussore silk goods. In the case of the ECM trade, Indian tobacco exporters face a complex problem of 8 different rates of import duty depending on the quota system and the country concerned. It is hoped that the joint Commission can simplify these complex procedures. The Country's trade balance situation led the government to draw $74.4 millions in SDR's as a measure of prudence. The total reserves at the end of January were Rs. 700 crores, comprising Rs. 347 crores in free foreign currencies and the rest in gold and SDR's. In 1973 the reserves declined by Rs. 80 crores and hence this drawal of $74.4 millions in SDR's for the second time since the first drawal in 1967 (which was repaid) is a precautionary move given the unsettlement caused by the oil price rise. India's sterling balances which are 70 per cent of the free foreign currency holdings have depreciated slightly with the fall in the value of the pound. (See Vol. IV page 198 and 199). Under the guarantee agreement, UK will compensate India for the fall in the value of the pound from the rate of $2.42 to $2.25 (a fall of 16 per cent). However the U.K. in its turn has proposed alternative arrangements when the present agreement expires at the end of March in order to be relieved of the burden of the pound sterling functioning as a reserve currency.

Aid: The total aid commitments received by the Country during 1973-74 amounted to $1.1 billion. In February 2 U. K. loan agreements on soft terms were signed for a total of Rs. 62 6 crores, the first for Rs. 47.4 crores for the import of non-project goods, raw materials, spare parts and components to service our agricultural and industrial production and the second for Rs. 15.2 crores as debt relief. Also in February a five year agreement for Rs. 23 crores with Norway was signed under which a new phase of Norwegian aid in agriculture, fisheries, education, transport, boat—building, hydro - electric power development and manufacturing will be provided, Agreements were signed with France, one for Rs. 36.12 crores to pay for French goods and services for heavy industrial projects, heavy and light equipment and spares for Indo-French projects in chemicals, fertilisers and other areas and the second loan of Rs. 10.15 crores for aiding our atomic energy and space programmes. Further to the PL 480 negotiations (See Vol. IV pages 26,132 and 199) on February 18, India and the US formally signed the agreement under which the US has written off Rs. 1,664 crores. The major part of it (60 per cent) has been allocated to agriculture and the balance to housing, family planning, health, technical education, power and rural electrification. In this final agreement the exchange rate as at February 15, 1974 was used to compute the outstandings. The total PL 480 and non PL 480 funds now retained by the US is Rs. 862.1 crores which will be spent in agreement with the Union Government on its embassy and consular expenditures in the Country and certain development projects in accordance with the agreement. The U.S. has given India a first list of 30 items ranging from spices, furniture and fabrics to table ware, building hardware and electric and electronic equipment for export to the U.S. This is in execution of the part of the agreement providing for an additional $100 million export to the US, $75 million to be paid in dollars, $25 million in US held rupees. The stage is thus set for an expansion of trade relations with the U.S.

International :

Bangla Desh: In February Bangla Desh's plan received assurances of aid from Yugoslavia during the visit of its President and from the Japanese economic mission particularly in developing oil and natural gases in seas off the coast. IDBI also made available a Rs. 25 crore deferred payment loan to finance the purchase of Indian railway equipment, rolling stock and other capital goods. This is the first commercial loan contracted by Bangla Desh in India and carries a 5 per cent interest with a 7 year period of repayment. In addition to the 3,500 tonnes of newsprint delivered till February, Bangla Desh has agreed to supply India with 1,200 tonnes every month so that by June the 6,500 tonnes pending from last year's contract is cleared. India has agreed to raise the price retrospectively for the newsprint purchase in accordance with world prices. The first annual report of the Indo-Bangla Desh joint Rivers Commission is evidence of an important co-operative effort. It refers to the long term projects under study and reports on the joint aerial and hydrographic survey maps of the River Ganga from Farakka to a length of 192 KM of which 144 KM have a common border. The report lays the basis for an agreed solution to the Farakka barrage problem.

World Monetary Reform: There was little progress in World Monetary reform talks. The major events in February were the continuing of the soaring prices of gold referred to in the last issue (See Vol. IV page 197) as well as silver and a

reversal of the rise in the value of the dollar. On February 26 the price of gold in the Paris market reached $188.15 an ounce and stayed at above $177 an ounce in all money markets through the month. Similarly silver prices rose 250 per cent in London and New York. In Bombay silver prices rose from Rs. 900 to Rs. 1,300 per kilogram during the month, making the export of silver a highly profitable operation. At the same time the dollar rate fell in terms of European currencies, reversing the trend reported in the last issue (See Vol. IV page 199). In Paris it fell from 4.9 to 4.8 Francs, in Germany from 2.69 to 2.67 Marks and in UK from £ 2.28 to 2.26. There were several reasons for these movements. The basic one was that the holders of large funds were moving into gold and silver as a hedge against prospective inflation and currency fluctuations. Further the US government's lifting of the curbs on capital outflows from the US and its lower interest rates also led in the short run to the fall in the dollar rate. In the case of silver, its growing use in electronics in addition to that of the defence and space programmes accounted for part of its spectacular rise. Finally the role of the large funds being accumulated by the OPEC countries must also be taken into account. Against this background, it is hoped that the next months will be used to import a degree of stability to the exchange rate situation. For this the role of the IMF should be clearly defined and it should be given the resources and powers to maintain some certainty and stability in regard to SDR's and currencies, pending a full fledged reform. In this task the OPEC countries will now have an important voice.

World Oil problems: Further to the analysis of the effects of the oil price rise in the last issue (See Vol. IV page 198), the US President's annual report on the international economy presented to the US Congress in February estimates that consuming countries will spend $115,000 million on oil this year, which is $70,000 million more than what they spent last year. This 64.3 per cent increase breaks down as follows: US $ 25,000 million against $ 9,300 million in 1973, Europe $ 55,500 million against $ 22,200 million in 1973, and Japan $ 18,000 million against $ 6,000 million in 1973. The developing countries will pay $ 10,000 million more as noted in the last issue. In fact both the US President and the President of the World Bank point out that this is equivalent to all the financial aid granted to them by the developed countries. The effect of these developments would be (a) over half the increased revenue will accrue to the Arab countries, (b) most of them would use their windfall profits to import more from the developed countries, invest in long term securities and real estate, Eurodollars and time deposits, (c) the magnitude of these investments will lower interest rates and stimulate new investments in productive facilities and (d) developed countries will resort to the European Money market; the international capital market and IMF for funds, and the developing countries will need more and not less aid. Unfortunately Japan has announced that it will not be able to untie its aid. So far her aid has all been tied; her plan to untie it is now dropped because of the trade deficits facing her. Against this background, various efforts are being made to meet this crisis. The US sponsored a 13 nation energy conference in Washington (consisting of US, Canada, Japan and Norway and the 9 nation ECM) in mid February set up a co-ordinating group to direct preparations for a conference of consumer and producer countries on the oil crisis, to be preceded, if necessary, by a further meeting of consumer countries (with France opposing the proposal), sharing of means and

efforts in conserving energy and restraining demand, a system of allocating oil supplies in terms of emergency or severe shortages, speeding development of additional energy sources so as to diversify supplies and *accelerating* energy research and development programmes through international co-operative efforts. A second suggestion by the World Bank economists is for the oil producer to freeze the taxes and royalties on crude sold to the poor nations at October 1973 levels at $1 75 per barrel while the others would pay the increased price of $7.00 per barrel. This would involve only 5 per cent of OPEC exports and to ensure that there is no abuse the concession will be for the quantities imported as of October 1973, with the poor countries paying the full price on which refunds would be made when verified receipts of the cargo are made available. A third programme is the agreement between the Shah of Iran, the President of the World Bank and the Managing Director of the IMF to set up a $3000 million development fund, which was referred to earlier under the crude oil paragraph in the National section. A fourth programme discussed at the Islamic Summit in Lahore in February is the supply of oil at concessional rates to non aligned and Muslim countries. Finally a special two-three week session of the UN General Assembly is to meet in April to deal with the energy crisis.

World Wheat production: The US Department of Agriculture estimates a 10 per cent increase in world wheat production in 1973 at 363 million tonnes Australia at 10.9 million tonnes (compared to the previous year's 6.5 million tonnes), Canada with an 18 per cent increase at 17.1 million tonnes, the US with 11 per cent increase at 46.6 million tonnes, the Soviet Union's 28 per cent increase at 110 million tonnes, with similar increases in other East European countries were the highlights. China and Pakistan maintained their production, the other EEC countries had a small decline and India a 6 per cent reduction. The wheat supply position for 1974 is expected to be rather tight.

World poverty The report of the Special rapporteur of the United Nations Human Rights Commission after a four year study of 50 countries concludes that between 40-70 per cent of the developing world's 2000 million people live below the poverty line and that 40 per cent or 800 million live in absolute poverty. In regard to inequalities, the World Bank report is referred to, which after a review of 39 countries concludes that the top 5 per cent of the population receive 30 times more than the bottom 40 per cent. One third to one half of the people in these countries suffer from hunger and malnutrition and around 25 per cent of them are 5 years and under. The report concludes that action against mass poverty and a threshold of human dignity and decency is the first priority for the countries and action against income inequalities is their immediate task.

Asian Trade Cooperation: The fifth conference of the Confederation of the Asian Chambers of Commerce meeting in Delhi in February recommended (i) the setting up of Asian buffer stock of grain to deal with periodic fluctuations in the countries (ii) removal of the obstacles to the establishment of Asian Reserve Bank (Vol. II No, 10 page 17 and No. 11 page 21) and the Asian clearing Union (iii) adopting the Australian system of tariff preference, (iv) long term arrangements and treaties between the countries to expand intra-regional trade, (v) the progressive restructuring of the energy base and R & D into alternative sources of energy (vi) intensive oil exploration onshore and offshore, (vii) commodity agreements to

bring about greater price parity, and (viii) encouraging international investment in the context of the policies of the host Asian countries. This programme is in line with ECAFE's plan of action for the second development decade.

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II Agricultural Development

Paddy:

The government forecast for the 1973-74 year is 71 lakh tonnes of foodgrain production in the State, comprising 53 lakh tonnes of paddy and 18.20 lakh tonnes of cumbu, cholam and varagu. There is some difference of opinion between the Union and State governments as to the procurement and contribution of this State to the Central pool. The Union government claims that this State's share is 3.5 lakh tonnes, while the State government authorities point out that this target was not discussed with them and that the basis for it is not at all clear. The State's analysis is that on the basis of 410 grams of rice per capita, the State's need amounts to 69 lakh tonnes so that 1-2 lakh tonnes is available for the Central pool. This State's contribution to the Central pool should be clearly and unitedly established by the two parties to avoid this kind of ambiguity in the future. Further to effects of the partial failure of the North East monsoon discussed in the last issue (See Vol. IV page 204) the government reports that the food crops in certain rain fed areas of Chingleput, Salem, Ramanathapuram, South Arcot and North Arcot were affected. Well irrigation had become essential and in all these areas deepening of wells with government subsidy was undertaken. One immediate consequence was a rise in the price of both coarse and fine quality rice in North Arcot in February. The retail price in the district at that time ranged from Rs. 2.75 per measure for low quality to Rs. 3.50 per measure for fine quality. In Madras also February saw a similar price rise from Rs. 2.80/Rs. 2.90 to Rs. 3.25/3.50. The Civil Supplies Department distributed new sugar and rice cards in early March to some 4.2 lakh persons in the City, eliminating over 70,000 old cards which were not in order. Also to regularise the movement of rice between districts and check the price rise, from mid February, the following separate districts were formed in modification of the division reported in Vol. IV page 136 (a) Madras and Chingleput districts, (b) North Arcot district, (c) Salem district, (d) Dharmapuri District, (e) Thiruchirapalli district, (f) Tirunelveli district and (g) Coimbatore, Madurai, Pudukottai and Ramanathapuram districts. The other areas continue as separate notified areas. By early February, 10 per cent of the 10 lakh tonnes of Samba paddy sown over 8 lakh acres in Thanjavur had been harvested. On March 1, the government raised the rate of the paddy levy from 25 to 40 per cent from the stocks purchased or moved by traders from Thanjavur, South Arcot and Pudukottai districts. Of the 3-4 lakh tonnes of the estimated marketable surplus, FCI had procured (through levy and purchase)

12000 tonnes of rice at the rate of 1000 to 2000 tonnes a day. The 50 Kuruvai purchase centres in the district were used for the Samba procurement. Thanjavur paddy production is normal and not affected by the shortfall in the Northern districts, as irrigation water was available to the farmers in the district till the middle of February. FCI which had procured over 1 lakh tonnes of Kuruvai paddy (See Vol. IV page 30), expects to procure 50,000 tonnes of Samba paddy in the district which together with coarse grains procurement will enable the State to meet its target to the Central pool of 1.75 lakh tonnes and the State stock of 20,000 to 22,000 tonnes from the current crop. For the ensuing Kharif season the State plans on a fertiliser allotment of 1.3 lakh tonnes of nitrogen, 40,000 tonnes of phosphates and 40,000 tonnes of potassic fertilisers. This allotment established at the January Southern Zonal Conference will cover the period February 1 to July 31, 60 per cent being from the local production and the rest imported. It is unlikely that this allotment will be actually received and hence the Department must help farmers to use green manure and develop composts for more extensive use than last year.

Pulses :

The State is in *serious and permanent* deficit in pulses production, as is the Country vis-a-vis the Nutrition norm. The State's annual consumption is 7 to 8 lakh tonnes as noted in Vol III page 501. To date the many efforts made to increase pulse production (See Vol. I No. 5 page 1, No. 3 page 3, No. 9 page 8, Vol. II No. 3 page 8, Vol. III pages 183, 256 and 501) have not resulted in a breakthrough. Once more the Department is launching on a large 5 lakh acre production programme, using the rice fallows in Thanjavur, South Arcot and several districts, with quick yielding varieties referred to in earlier issues of the Bulletin. It is to be hoped that the incentives now being offered to the farmers will lead to the fallow lands being used for this much needed food crop.

Tobacco:

12,000 hectares in the State grow around 20 million kg of tobacco used for snuff, cigars, etc. at the highest per hectarage yield of 1,450 kgs. In addition Virginia tobacco grown in this State and four others has emerged as an important foreign exchange earner—the principal export markets being UK, Japan and USSR. In addition to the area already under cultivation which is over 30,000 hectares in the five States (against the Fourth Plan target of 28,000 hectares), a further 50,000 hectares in the light soil tracts in this and other States will be used to grow an additional 56 million kg of Virginia tobacco. The light soil in this State is particularly suited for this plant and provides the flavour which the export market demands. This cash crop not only supplements the income of the small farmer, it uses soils which are unused during the greater part of the year.

Cotton:

The cotton crop in the State is normal but for the Country due to the severe cold in some of the northern states, the output is likely to be 60 lakh bales against the earlier estimate of 65 lakh bales for this season. With the carryover of around 25 lakh bales from the last season, the availability will be around 85 lakh bales. Even so, with increased demand by the mills and the decline in nylon and polyester fibres and filament the mills in the State and the country might find themselves short of supplies. Here the textiles strikes in Bombay and this State referred to earlier, might have a dampening effect. The

government is examining a proposal to set up a State Cotton Corporation to deal with cotton purchases for State run mills. The Tamil Nadu Textiles Corporation (TNTC) Chairman heads a Committee which is elaborating the project. TNTC has 25 textile units of which 13 are co-operative spinning mills. The units' demand for cotton is 2 lakh bales per annum against an annual proudction of 3.5 lakh bales in the State. The Corporation is being planned as a link between the growers and the spinners, to ensure higher prices to the growers and to provide the government run mills with cotton at steady prices. It will not have a monopoly status in the purchase of Kapas or sale of lint but compete with traders on a commercial basis. The Corporation will be one more link in stabilising the cotton and yarn situation in the State.

Research Results:

At the end of February, three new crop strains—MCU 8 cotton, PR 202 ragi and 737812 tenai—were released at the Regional Agricultural Research Station, Koilpatti. At the tobacco Research centre, Vedagundur improved local tobacco varieties 9 & 10 are to be released replacing the variety I-64 now in use over the 12,000 hectares referred to earlier. The new varieties have a prospect of a 10 per-cent higher yield. Trails of new types of chewing tobacco No. 18, 22 and 30 when processed for commercial farming hold the possibility of increasing yield by over 50 per cent. Further the station on the basis of experiments at Sukkanpatti and Aravakurichi is developing suckercides which will remove the suckers in the tobacco and improve its chewing quality. Another result of the Departments' programme is a simple pesticide made of DDT and sulphur with which the mango Lopper can be eradicated as can the mildew from which the mango groves and trees at early flowering stage suffer. The Tamil Nadu Agricultural University has developed several new varieties of the common bean, Avarai and Mochai, which can be grown in this pulse scarce State all the year round. Rice Research in this State and other States has demonstrated the effectiveness of the Japanese anti-biotic in controlling the rice blast disease. In view of the shortage of the chemical needed for producing this fungicide, the Cuttack and Coimbatore stations need to work urgently on developing substitutes.

Fish Farming:

The State's Fisheries sector of the Fifth Plan at Rs. 18.8 crores is the largest of any State and aims at increasing the catch by 50 per cent and developing a network of the fishermen's cooperatives. The marine catch will be doubled with the infrastructure that has been established—mechanisation of boats, landing and berthing facilities, cold storage and processing facilities, (See Vol. III pages 258-259. 346 & 641). Fishermens co-operative marketing federations, funded by the Agricultural Refinance Corporation, will take over the auctioning of catches from middlemen at 300 centres and will provide speedy transportation to wholesale and retail centres for fresh fish. The Tirunelveli Fishermen's Cooperative Marketing Federation has started functioning and similar federations are being set up in Thanjavur, South Arcot, Ramanathapuram, Cuddalore, Mandapam, Madras and Kanyakumari. A chain of 50 cold storage and processing centres are also to be set up in addition to the existing 30 centres. By 1979 the inland and marine fish catch will increase from the current 4.5 lakh tonnes to 6.3 lakh tonnes, bringing an income of Rs. 53.34 crores. For inshore fishing 2382 mechanised boats are to be used and fifty four trawlers for deep sea fishing. With the help of TIDCO a Rs. 60 lakh boatyard for manufacture of the

trawlers is to be set up. The 25,000 catamarans and 5,000 sailing boats will be improved at a cost of Rs. 80.13 lakhs. For inland fishing, 280 millions fish seed per annum are proposed, increasing the fish seed farms from the present 24 to 64. The whole programme is to be supported by a Rs. 2.7 crores R & D effort. Rs. 10 lakhs are to be invested in developing fisheries industrial estates for processing, canning and other marine industries. In Veppalodai near Tuticorin a pilot project for pearl culture is being launched. In this first stage the culture of oysters is being taken up to be followed later by their impregnation with beads. The rapter method of breeding oysters is being followed and the preliminary tests with plastic beads have proved successful. Another pilot project for breeding eels has been started at Mandapam. The eels can be harvested at the end of the first year and can be extensively developed in both rivers like Tambaraparni and in running water tanks. There is an extensive demand for the produce in Japan, South Korea, Philipines, China, US, Canada, UK, France and Iraq, at Rs. 1000-1300 per kg.

Dairy Farming :

Further to the import of New Zealand cattle (See Vol. III page 345), a further consigment of progeny tested bulls from New Zealand was imported from Auckland in early February in Madras. 21 high breed Friesian and Jersey bulls were unloaded in Madras and are being located at the Veterinary College as part of the cattle improvement programme of the State.

Rubber :

Rubber products in the State and the South generally are facing a sellers market. In February the price of rubber was Rs. 700 per quintal, passing the high point 10 years ago when it reached Rs. 690 per quintal. The World price is even higher at Rs. 924.49 per quintal. The output of Indian natural rubber for the seven months April to October 1973 was 68,353 tonnes, which was an increase of 7,800 tonnes over 1972-73. Rubber consumption during that period was 72,751 tonnes, being an increase of 14,200 tonnes over the previous period. Synthetic rubber production however declined by 1,400 tonnes due to industrial unrest in the Bareilly plant. The demand for rubber is fast outstripping the combined natural and synthetic production. The proposal, to export rubber (Vol. IV page 141) should be resolved after examining the indigenous demand of the tyre producers and taking into account that an export of 10,000 tonnes will earn Rs. 15 crores in foreign exchange. The State government is setting up a Rubber Plantation Corporation in the Kanyakumari district both to expand the production of rubber and help in the settling of the Ceylon repatriates.

Tea :

Tea production in the State and the Country for 1973 increased. As reported in the last issue (Vol. IV page 208) the Tamil Nadu, Kerala and Karnataka 1973 production was 101.6 million kg (0.3 million kgs over 1972), which could have been higher if there had been no power cut in 1972 and 1973 together with the three consecutive dry spells in Tamil Nadu. The Country's production for 1973 was 467 million kg which was 15 million over 1972, (surpassing the target of 460 million kg). But Indian exports did not do well, at 88.6 million kgs for the first seven months of 1973 compared to 96.7 million kg during the 7 months in 1972 due to the labour trouble in the Calcutta port and the Indo-Sudan trade stand still (See Vol. III page 575). The export loss for the year is estimated at 11 million kg. Indian exports have been falling steadily from

38 per cent of the World market in 1964 to 34 per cent in 1971. Sri Lanka's fall has also been steep from 37 per cent to 31.2 per cent. These declines have been picked up by Africa whose share has risen from 7.1 per cent to 11.8 per cent. There are several issues facing the State and Country in Tea production and tea exports. *On the production front*, there is need not only for continuing to increase total production but for particular attention to be paid to the small planters The number of registered small planters is 8000 (there are other unregistered ones) with an area of 10,000 hectares. In terms of volume, the bulk of Indian tea is produced by the 1,225 large planters covering 3.27 lakh hectares but in this State there are a large number of small planters whose limited resources and poor technology results *in their yield remaining* at 700 kg per hectare against the national average of 1,000 kg per hectare and 2,000 kg in the case of the large planters. It is these small planters who need help from the government and the State. In this State, the Department of Agriculture has put up a scheme to help small growers to plant 3,000 acres with tea, with a capital investment of Rs. 2 crores from the ARC. There are also the 8 Co-operative tea factories in this State doing well but touching only a few of the small growers (See Vol. II No. 10 page 19 and Vol. III pages 639-640). In the Nilgiris there are 15 factories which need to be brought together and restructured with the help of the government, ARC and the Tea Board. The other problem is for the export market to be improved. Here the Februry agreement between India and Sri Lanka who between themselves account for 75 per cent of world tea exports to join with Kenya, Indonesia and Bangla Desh to develop a consortium of the producing countries, both to stop the trend of falling export prices and to improve and increase their exports will be meeting a long felt need. At the forthcoming June meeting of the FAO sub-group, the tea producing countries led by India and Sri Lanka can develop a World Strategy. The price of tea is the only one of the internationally traded commodities which has remained stagnant. In five years it has moved from Rs. 7.14 to Rs. 8 per kg. Meanwhile the cost of fertilisers, furnace oil and other inputs have increased, tea consumption has remained stagnant and the tea producer in India inspite of having the world's highest productivity has had a falling income. What is needed is not only a new system of promotion as outlined in (Vol. III page 643) by India and Sri Lanka, there is also need to change the export system under which India and Sri Lanka export tea in bulk to the London auctions and accept whatever price the brokers and packers, like Brook Bonds, Lyons and Liptons there offer. There will be resistance to breaking this system as was witnessed at the German Tea Council anniversary in February. The German traders prefer to go to London to buy their tea and opposed the suggestions of India and Sri Lanka to (a) organise tea auction at their own ports (b) work to a floor priceand (c) export retail Packets of loose tea and tea bags. But this is what should be done to improve our exports and export prices. There is need for an intensive and uninational world promotion of tea and the tea habit for replacing the the London auction by auction in India and Sri Lanka ports, for exporting packaged and packeted tea directly to the countries and working to a a firm floor price. It is this kind of policy that the 2 Countries should adopt and got all tea all tea producing countries to join in the strategy.

Coffee:

The Coffee crop for 1973-74 will equal, perhaps surpass last year's 90,389 tonnes, as the output of Robusta is estimated at 50,000 tonnes against last year's 40,000

tonnes and 1971-72's 28,000 tonnes. Coffee estates are being expanded by 20,000 acres during the current plan, particularly in Andhra, Assam, and Madhya Pradesh. Andhra Pradesh's new coffee areas covering 1600 acres are doing very well and are being extended. The Coffee Board has commissioned a feasibility report on an instant Coffee plant and is taking action to make available adequate fertilisers and other inputs to small and medium planters. It has also requested the government to vest in the Board more administrative and management powers so that it can take speedy action to expand production, settle industrial disputes and expand coffee exports. Exports upto the end of January amounted to 49,831 tonnes and given the increasing foreign demand for Arabica seeds the total export will be 60,000 tonnes as forecast in the last issue (page 209), earning Rs. 40 crores (and not Rs. 45 crores as then reported). By January end, the export income had passed Rs. 36 crores. World coffee prices are continuing to rise, January recording a 30 per cent spurt. This calls for the maximum effort to export this product, the campaign to increase *internal consumption* meanwhile being held in abeyance.

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III Industrial Development

Salem Steel :

In the final establishment of the Union Ministry of Steel's annual plan for 1974-75, this year's allocation for the Salem Steel Plant has been reduced from Rs. 15 crores reported in the last issue (Vol. IV page 210), to Rs. 3 crores. This reduction is due to the overall limitation of financial resources and the policy decision to use the enlarged steel allocation of Rs. 276 crores for the year (See the Union budget sub section under the National section) to meet the full requirements of Bokharo and the expansion of Bhilai. The Union Ministry in fixing this year's Salem Steel budget at the same level of Rs. 3 crores as that of 1973-74 recognises that this will seriously retard the progress of the project and increase its cost by around 20 per cent. It will not be possible to purchase the foreign technology and make the advances to equipment suppliers that had been planned for this year. It may also force the management to retrench its 7500 workers and add to the State's unemployment problem. The other two Southern plants—Vishakhapatnam and Vijayanagar —will have a budget of Rs. 5 crores each to continue their civil and other works. The State government has made a strong representation to the Union government for restoring the Salem budget. The Karnataka government has in this connection raised a wider policy issue as to whether in light of the existing Steel Plants not working to capacity, the first priority should not be to ensure that they produce upto capacity before going in for massive expansions of these underutilised plants. This issue of the economics and policy implications of expansion vs. decentralised production was discussed in (Vol. III pages 112 & 172 and 484–485). The conclusion of that discussion was that there is no

either or in this case, as in many others and that expansion must be accompanied by a number of measures to ensure capacity production, while at the same time the Southern plants should be quickly constructed as viable units. There is nothing that changes this conclusion. The Union government must find the resources to keep the Salem project on schedule and avoid the wasteful escalation of costs.

Neyveli :

The second mine cut proposal at Neyveli has received all the technical approvals at the Union Ministry level but its inclusion in the annual plan provisions for this year is still under examination in light of the Rs. 121 crores allocated for power in the plan budget. The project will have to be budgeted over the Fifth Plan period and the earlier the decision is taken the more certainly will there be an easing of the difficult power situation in the State. In the meanwhile the Union government has stated that it has taken action to maximise the production of the present mine so that the thermal plant can generate its full 600 MW power. Neyveli as of 19 February supplied the State grid 1556 million units out of the committed 1690 million units upto March 31 and agreed to increase its supply by a further 100 million units by that date at an increased unit cost of 2.5 paise. From April, it is in a position to generate—400-450 MW, as the first 50 MW unit was converted to oil firing in March and the second 50 MW unit in April. This will ease the tight power supply position for the State in the difficult summer months.

Hindustan Photo films :

As forecast in Vol. IV page 37 Hindustan Photo Films, according to the Auditor General's Report, has incurred a loss of Rs. 92.85 lakhs during the 4 years ending March 31, 1973 and a cumulative loss of Rs. 11.88 crores since it began functioning. This is over 200 per cent of its equity capital of Rs. 5.82 crores. In addition to the reasons for the loss summarised in the earlier issue of the Bulletin, the report calls attention to the excessive loss of silver suffered by the plant from one of its raw materials, silver nitrate. The management is now instituting procedures of physical verification of their other items to stop this source of the losses suffered by the plant.

Cars :

In the State in February a project to save petroleum consumption in motor cars was developed and submitted to the Union government authorities for examination and approval. The TVS group has applied for a license for the mass manufacture of charcoal gas plants to provide fuel for automobiles. A prototype plant fitted to a car was demonstrated which at this stage costs Rs. 6000 but on mass manufacture would cost Rs. 4000. This is an improvement on the charcoal gas plants fitted to cars and buses during the years of World War II by the firm. The cost of powering a car with charcoal gas would be around 1/3 that of petrol. Certain external modifications would be required for switchover from petrol to charcoal gas. In the neighbouring State, Andhra Pradesh, the Neilgan Agencies has devised alterations to the Ambassador petrol engine to enable it to run on diesel oil. The conversion device which costs Rs. 6000 has been the subject of a patent application. The use of diesel will reduce the fuel cost of the Ambassador to 1/5 of the cost of using petrol.

Cement :

The State's six cement units with a total capacity of 3 million tonnes out of the Country's cement capacity of 20 million tonnes face a serious production situation. In the last 20 years this industry grew fast

by five times in terms of capacity. But now two thirds of the capacity remains unutilised due to lack of coal and transport difficulties. The industry now has the electricity it needs because of Kerala's continuous supply. But most of the factories have to obtain their coal from the Bengal—Bihar—Talcher collieries and are not getting even one third of their needed supply. India cement requires 1.25 lakh tonnes of coal per month but has been receiving only 40,000 tonnes monthly. It has shut down seven of its kilns. At a time when there is shortage of cement in the Country and there is a growing export demand for it, the transport bottleneck to maintaining production should be corrected. Coal production needs to be increased and its transport to the consuming units assured. One way would be to link some of the units to Singareni coal mines, another would be for the coal from distant Bengal and Bihar to be moved by sea through a pooling arrangement with the State Electricity Board which is chartering coastal vessels for coal supply to the thermal plants (See Vol. III page 693). Another prospect is the cement for furnace oil deal proposed by the government of Iran. The industry has concluded an agreement with Iran to supply 3 lakh tonnes of cement in 1974. The unresolved questions are at what price Iran will supply the furnace oil and what price it will pay for cement. These questions should be resolved and such swapping arrangements promoted. For meeting the internal demand, the coal supply and railway transport facilities should be adequately organised from this year so that the gap of 5 million tonnes between demand and supply foreseen during the Plan period—even with full working to increased capacity of all units—is reduced.

SIPCOT:

Further to SIPCOT acting as a catalyst in attracting over Rs. 40 crores for investment in the States' backward districts through its search for encouragement and offer of incentives to entrepreneurs (See Vol. III page 579), it has taken a further step in sending its senior staff to other States where entrepreneurs and capital are available for investment in this State's backward areas. In February two such missions were undertaken to Maharashtra and Punjab to discuss with the entrepreneurs there the opportunities and special incentives available to them for investing in this State. The various SIPCOT's schemes on which feasibility and pre-investment studies had been completed were explained and discussed with the entrepreneurs and there is reason to believe that a number of them will be investing in the Ranipet, Hosur and other growth centres complexes in backward areas being successfully opened up by SIPCOT.

Paper Mill:

A paper and board mill is being erected at Kumarapuram near Mannargudi at a capital cost of 25 lakhs with an annual capacity of 1600 tonnes of straw and industrial boards and straw wrapper paper. The mill will use paddy straw and waste paper as raw material and after trial production in November, will go into production early next year. Apart from employing 400 workers, it will make a contribution to the relief of the stringent paper board situation in the Country.

Foundries:

In February the 400 foundries in the States faced a problem additional to the coal shortage referred to in Vol. IV page 144. Their annual requirement of pig iron amounts to 1 lakh tonnes but the Iron and Steel Controller's allocation has been 50 per cent and even this dried up in February. In the Coimbatore district where about 30 per cent of the foundries

function as part of the small scale sector (120 units), from January to March only 5,000 tonnes of pig iron had been allocated against their requirement of 24,000 tonnes for that 3 month period. It also faced a shortage of coke, its January allotment of 4,000 tonnes being diverted to other States. Further steel which had not yet become scarce registered a 50 to 115 per cent increase in prices in the open market. These shortages were being experienced at the time when large stocks of pig iron, steel and coke were lying in stock in the steel plants and mines as noted in the last issue (Vol. IV pages 185 & 189) and in this issue under the Steel and Coal paragraphs in the National section. Part of the reason for the pig iron shortage is due to the 1973-74 allocation being based on 1972-73 consumption. In this State the 1972-73 consumption was exceptionally low because of the 75 per cent power cut and the Andhra agitations which dislocated the railway movement to this State. The 1972-73 consumption was 17,481 tonnes against 32,512 tonnes in 1971-72. The Iron and Steel controller claims to have allocated that amount again to the State but since October there were little or no supplies coming. Some corrective action was taken in February and supplies began appearing again in March but there is need for a regular and clear allocation and for certain transport of the allotment to the consuming centres. As for steel, the hold up and piling up of stocks has not yet begun affecting this State. Hindustan Steel stockyards were receiving their normal quotas of 5,000-6,000 tonnes per month till February. It is in the period April to June that the steel hold up in plants will be felt in this State. It is against this that the Steel Controller and Joint Committee should take action now.

Other Small Scale Sector needs :

The small scale sector in the State continues to face credit problems following the RBI's credit squeeze (See Vol. IV pages 119-120 and page 184 of the last issue). It has been assured by the Development Commissioner that in addition to the credit relief that will be provided as a result of the representations of the Union Ministries of Commerce and Industrial Development to the RBI in this matter, negotiations were under way to include a line of credit for small scale industries under the loan being contracted from the World Bank. In addition, the raw materials shortages faced by the sector in regard to zinc, aluminium and match paper also call for some early relief action.

Ceramics :

Ceramics is an important small scale industry in the State with the functional estate at Virudhachalam and Perambur and the Ceramics training institutes also located in the 2 centres. The demand for ceramic goods in the North and by tourists is rapidly expanding and the two centres should be further expanded and their marketing channels regularised. For this purpose the government established at the end of February the Tamil Nadu Ceramics Ltd. (TCL) to develop the industry and market its goods through the Tamil Nadu Handicraft Development Board's marketing centres, until TCL establishes its own marketing network. The possibility of introducing a course in ceramics science and technology in some of the technical high schools, and later in the vocationalised secondary streams and in post graduate research at some of the engineering institutions should be studied.

Electronics :

Further to the late start in the development of electronic estates referred to in (Vol. III page 578, and 722) and supported by the Electronics Commission, the Vikram Sarabhai Estate at Adyar is specialising in the development of TV receivers, tape

recorders, desk calculators, amplifiers and a number of *professional* items like deflector coils. One of the interesting features of the development of the growing electronic units in this State is that unlike the large complexes in Karnataka and Andhra Pradesh developed with sizeable Union government investment, here the units have been developed by private entrepreneurs with some help from the State government. One such unit is the Sreeram Electronics in Adyar aided by the government to produce 10,000 printed circuit boards (PCB) per month. PCBs are in large demand with the spurt in transistor production. Transistors require PCBs to replace the high voltage equipment with the conventional chassis and wiring. The large scale production in the State of PCBs will fill a gap in our electronic equipment production.

Power Loom Servicing:

Power loom servicing centres are being set up by SITRA to help small industrialists to own, operate and service their power looms. The centres will train maintenance personnel, offer technical guidance on waste reduction, defects and damages in cloth, materials handling, and rehabilitation and modernisation of looms, procurement of spares and reduction of inventories. They will also provide testing facilities for yarn quality and fabric appearance and develop processes and chemicals for giving the desired finishes to dress fabrics and combine flame retardancy with crease resistance. SITRA also is setting up a project to fill the gap in producing machines for continuous stretching of cotton stretch yarns. Stretch yarns are in growing demand as they are the basic materials for making socks, sports wear and lingerie. These machines when produced will improve cotton's competitive position in the market for stretch yarns and fabrics.

Handlooms and Yarn:

SITRA has also developed under the sponsorship of the All-India Handloom Board raw silk fabrics with good dry and wet crease recovery to meet the laundering needs of our export handloom silk materials which are in growing demand in Europe and America. Mulberry silk items exports which were Rs. 4.23 crores in April-November 1972 increased to Rs. 6.66 crores in the same period in 1973 and tussore silk exports increased from Rs. 81 lakhs to Rs. 1.25 crores. In addition to the fast rise in the exports of handloom referred to under the Exports paragraph in the National section, Madras handkerchiefs exports increased during that period by Rs. 1 crore at Rs. 3.38 crores, and shirtings and other fabrics by over Re. 1 crore at Rs. 5.82 crores. Further to the *recommendations of the* Santhanam Committee on the handloom industry summarised in the last issue (Vol. IV page 214), the government in early February announced its acceptance of the recommendations. It is introducing legislation to ensure proper distribution of yarn at reasonable prices to handloom weavers and to reserve certain varieties of cloth exclusively for handlooms production. It will adopt legislation to register all powerlooms and amend the State Electricity Act to provide for the issue of valid permits for the grant of connections to them. The Panchayat Act is to be amended to make it obligatory to obtain a permit for running a power loom. The Tamil Nadu Handloom Finance and Trading Corporation which provides loan assistance to weavers outside the co-operative sector has now extended its activities to the marketing of the product. It is procuring and marketing handloom, powerloom and knitted fabric and is arranging for exports to the US and West Germany from where it has received several orders. A further stage in the revival and aid to the handloom

industry in the State is Union government's Committee which visited the State in February and which will be submitting an action-oriented report to meet the problems of the industry, particularly in improving the availability of sulphur black and other dyes at reasonable prices, viscose yarn which is now distributed mainly to master weavers and mills, and cotton yarn which is not available at control prices. The 3 lakh powerlooms with their tax concession have placed the handlooms in a disadvantaged position. Also the sector needs RBI and other credit in the off season to prevent distress sales. The purchase of machinery by the co-operative mills for their expansion so that they can meet the handloom sector's needs more fully should be ensured. It is expected that in April the Union Committee headed by Mr. Sivaraman of the Planning Commission will make recommendations to meet these problems facing the decentralised sector which with the high cost structure now characterising synthetics and limited availability of superior varieties of cotton assumes new importance. In addition, for this State the handloom industry is a major employment avenue and needs organisational changes to enable it to meet the fast growing but selective export and domestic demand for its products.

Leather :

The government has under consideration a plan to ban the export of semi-processed hides and skins as part of the drive to develop finished leather and manufactures in the Country and increase their export. Exports of semi-processed hides and skins amounted to Rs. 153 crores in 1972-73 and hence the banning of this important revenue earner must be followed up by quick and effective aid to leather finishing and manufacturing units. To this end, the government has permitted large houses to enter the leather export industry and is requiring 100 per cent instead of the 75 per cent hitherto of the product of all export oriented leather processing units for export. There are still many obstacles facing the finished leather and leather goods producers. The Madhavaram leather industrial estate still suffers from inadequate power supply. Over 6 export oriented finished leather factories and those producing for the local market in the Madhavarm estate are getting limited supplies of power. One unit working on a Rs. 10 lakh export order for garment leathers for Czechoslovakia is receiving 220 units per month against its need for 2,000 units. The result has been a slowing down in its production, using a larger unit in the city and airlifting its product to make up for the delay—all involving discouragement of the small producer and escalating his costs. Other units have had to reject export orders. There is no need for the supply of inadequate high tension power which is used up quickly. All this can and should be rectified and power supplied to these units on a priority basis. On the positive side, the National Small Industries Corporation was able in early February to clear 20 applications for the import of machines for lather finishing and manufacture of leather goods. This will mean importing machines for this leather finishing industry for Rs. 41 lakhs from Czechoslavakia, Rs. 14 lakhs from the UK, Rs. 4.7 lakhs from West Germany, Rs. 1 lakh from Japan and Rs. 16 lakhs from indigenous sources. This will enable the units to produce finished leather goods for export by the end of 1975. Also NSIC is establishing a Rs. 75 lakh prototype production centre for finished leather and leather products at CLRI Madras. The other good development was the sending in February of an export mission to Japan, Hongkong, Australia and New Zealand by the leather export promotion Council. The mission will explore the expansion of leather goods

exports to South Asian Countries beyond the small amount of ET tanned hides and skins and finished leather. This mounting market is freight saving and the demand in these centres for all types of leather, leather goods and footwear can be met by our units. In addition the mission will also examine the possibility of importing of pickled lamb and sheep skin from Australia and New Zealand, where only the wool and meat are used, the skins thrown away. This is an interesting move in the direction of the Country not only not exporting raw hides and skins but importing these items to feed its growing leather manufacturing industry.

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IV. Education, Science and Health

Unrest in Educational Institutions :

The February tally of student unrest and demonstrations was small and limited to 4 States. The major causes for the disturbances were (1) Political factors linked to the general agitation in Gujarat, (2) the anti price rise bandhs principally in Rajasthan (3) disapproval of the appointment of professors (4) demand for subsidised food in hostel (5) demand for certain educational reforms and (6) strike by Tamil Nadu House Surgeons in sympathy with the Delhi agitation. The most serious event was the strike of the Bombay students which succeeded in cancelling selection examinations. The examinations themselves were not worth saving, but there was the familiar taste of blood in the event.

Adult Education :

A voluntary organisation working in the field of adult education and adult literacy since 1966 is the Seva Mandir, in the city of Udaipur. For the rural areas there are four programmes in operation (1) The Badgaon Literacy Project has as its objective the eradication of illiteracy in the Badgaon Block by 1977 and envisages making 26,000 adults literate. By 1972, 4,000 adults were made literate. The number of literacy centres run are 74 with 1,517 learners of which 1,283 are males and 234 females. A literacy programme in a village is taken up only on the request of the panchayat, which is expected to pay a nominal sum of Rs. 5/- in the beginning. Each participant pays 10 paise per month. As in Kerala, (See Vol. III page 810) a newsletter is published called Saksharata Sandesh. An interesting feature is that the instructors are village youths and not teachers. (2) The Farmers Functional Literacy Project for training farmers through functional literacy, sponsored by the Government of India, is another activity of the Seva Mandir. There are at present 53 Literacy Centres and 1,174 adult learners under the scheme. (3) The third project is the Khewara Experimental Literacy Project financed from the grants given by the Government of India. The major objectives of the project are for ascertaining the most suitable methods and materials for mass literacy programmes.

There are 30 literacy centres with a strength of 750 persons. (4) The Rural Mobile Library is the fourth scheme undertaken by the Mandir. Two trained librarians distribute books. They are provided with motor cycles. They provide reading materials to 52 villages. Another objective of the project is to investigate the reading interests of the rural masses and to find the most inexpensive method of distribution. A similar establishment in Bengal is the Bengal Social Service League foundin 1915. Although the main objective of the association is the all round welfare of the Community, it was realised that without a broadbased adult and popular education programme, welfare activities would be superficial. Some of the adult education programmes of the League are: adult education teachers training, literacy teachers training camp, audio-visual training courses, workers education and adult education centres. There are about 270 Adult Literacy Centres which are run by the ex-trainees of the League. The villagers in some places co-operate by donating land and building to the literacy centres. About 50 women's Functional Literacy Centres are also functioning, aided by the Ministry of Education and Social Welfare. Some of these centres are in remote tribal areas. Eradication of illiteracy is a massive programme and the Government alone will not be able tackle it. Hence it is of importance that Voluntary Social Service Units should take up part of the responsibility. A suggestion was made at the Seminar of the National Service Corps of the Madras University that the services of college students may be mobilised on a large scale for adult eduation. This would imply extension of NSC to all colleges in the State. This may be the start of a work programme in which all univerity students should be involved.

Educational Reform:

The All-India Seminar on Examination reform held in Jammu has made three suggestions: (1) In view of the increasing malpractices in examinations, the introduction of the open book examination system at all levels primarily on an experimental basis, (2) written examination to be supplemented with viva voce and (3) full opportunity for students to appear for the examinations to improve their division without restrictions on the number of times. These are wise recommendations which should be acted upon. In this State, new syllabi having been introduced in primary schools for all subjects, except Science and Mathematics, the training of teachers to implement the scheme has been successfully organised. Over 58,000 teachers had received the training by February. The training scheme was extended to 30,000 teachers handling science & mathematics in standards VI to VIII. The expenditure for the scheme, execpted to be completed by May will be around Rs. 28 lakhs. Further, in order to impress upon them their vital role in implementing the updated syllabi, headmasters of 2,800 high schools are to undergo a 12 day orientation course. Two courses each will be conducted at 46 centres, one in each educational district at a cost of Rs. 3.5 lakhs. The resource personnel have been drawn from senior headmasters, college professors and educationists. A proposal for starting next year a Bachelor of Technical Education (B.T. Ed.) course for training of teachers in technical institutions made by the Academic Council has been approved by the Syndicate of the Madras University. Job-oriented courses, such as degree courses in tourism, public relations, book industry have also been approved. Besides diploma courses in pre-school education, dietetics, food science are to be

started. The degree courses are to be of three years duration. These are moves in the direction of making higher education vocational. The Union Minister of State for Agriculture has suggested that agricultural universities should devote more attention to practical aspects of agriculture such as control of pests and diseases of crops. The Universities could suspend class room lessons for a few weeks and organise such practical lessons and also train farmers on campaign basis before the two crop seasons of the year. The annual general meeting of the Vice-Chancellors raised the question of the increasing tendency of State governments to control and regulate university activities and suggested that any bill for regulating activities of universities should be first referred to the association. A novel scheme for coaching eleventh standard students of the Corporation High Schools for the forthcoming SSLC examination, after school hours, has been originated by the Corporation of Madras. This is of particular benefit to poor students who do not have sufficient facilities at home for study. The 90 teachers involved are doing voluntary work. Over 760 students are being so coached. There are 35 High Schools run by the Corporation with a total strength of 3,200 students. The percentage of passes from these shools has been only 23 uptil now. This is a bid to improve the standard of education in Corporation schools. The scheme has been welcomed by the parents. The Corporation has also launched a Book Bank scheme for the benfit of poor students by which used books would be collected from private schools from children of well-to do parents and redistributed to poor children. Such programmes will have the effect of reducing the present wastage in education and provide the poor students compensatory education. To implement the UNICEF aided project for science reorganisation in schools, the Tamil Nadu Government has sanctioned the establishment of a State Institute of Science for reorganisation of Science teaching. The Institute will organise a series of training programmes for teachers and update the science syllabus. The specialists attached to the Institute will also visit schools periodically to organise activities to primote interest in science in both students and staff. New syllabi have already been progressively introduced in 50 elementary and 30 middle schools in Madras, Chingleput and South Arcot in standards III to VIII during the last three years. UNICEF has gifted Science kits to these institutions in this pilot project. The next phase will cover 1,500 primary schools and 2,100 middle schools.

Science:

Following the suggestion of the State Planning Commission to set up a hall of science and industry in the State, the Madras Science Association has urged the establishment of a permanent Science museum in Madras. Such an establishment will be in line with the reorganisation of Science teaching in schools. At the Science Exhibition organised by the Association there were 120 models and gadgets in engineering and physical sciences fabricated by college students. An atomic bicycle, electronic clock, burglar alarm were some of the interesting exhibits. In order to help the Kerala State in the development of mining engineering, post harvesting agricultural processing and study of the technology of spices and cash crops, a CSIR complex will be established in Kerala by May 1974. The Indian Air Force is to make available to the meteorological Department a super constellation with cyclone detection radars during the next cyclone season. This facility would enable the Department to detect cyclones early and pin-point the location so that early warning could be given to the people of the localities con-

cerned. However this would imply the perfecting of a machinery to reach the people in time. During the Fifth Plan three TV stations at Hyderabad, Cuttack and Patna are planned in addition to the stations now operating and those being set up. The Satellite Instructional Television Experiment is to be taken up by the middle of 1975, as a joint venture of the Department of Space, Government of India and the NASA of U.S.A. for studying the feasibility of direct reception from the satellite and its impact on rural areas. (See Vol. III page 515). Transmission from the satellite is expected to be through one video channel and two audio channels. When the TV projects now under construction are completed, they will cover about 16.8 per cent of the population. During the Fifth Plan the outlays on TV and sound broadcasting are expected to be Rs. 80 crores and Rs. 50 crores respectively. The introduction of TV in Madras, which is one of the nine stations where it is being set up, is likely to be delayed due to technical reasons as noted earlier. The main reason for the delay is that the antenna which was originally designed to be 150 metres is now being changed to a 175 metre tower. This necessitates redesigning of the structure and the base of the tower. The work may be completed by early 1975. In the wake of the oil crisis, Australia and India are developing plans for the harnessing of solar energy. Though the trapping is a relatively easy process, conversion of solar energy into electrical power is highly complicated and expensive. None of the industrialised countries so far has been able to achieve this breakthrough of obtaining cheap solar energy. Nuclear energy replacing completely conventional forms of power has not yet materialised because of the high costs. To meet the growing traffic requirements, particularly that which might arise in the Fifth Plan period, the Railway is setting up a factory at Nasik to manufacture electric traction motor equipments which will accelerate production of electric locomotives and equipments for electrification of tracks. The factory is to be set up in collaboration with a Japanese firm at a cost of Rs. 9.5 crores.

Health :

A State nutrition programme for preschool children and lactating mothers for the Fifth Plan period, mainly for the benefit of the poorest section, has been drawn up at an estimated cost of Rs. 69.47 crores. It has been drawn up in consultation with experts in nutrition (See also Vol. IV page 150). The UNICEF is expected to contribute about 5 crores worth of drugs, CARE Rs. 6 crores by way of milk powder and other goods and Government of India Rs. 21.5 crores. It has been estimated that out of the 64.1 lakh children between 0-5 years in the State, 16 lakhs are suffering from severe malnutrition and 14 lakhs from moderate malnutrition, At present there are 6.17 lakh expectant women and 12.33 lakh nursing mothers. The Government intends to open 1,000 nutrition rehabilitation centres at the rate of 200 a year and 5,000 child care centres, with the object of setting up 8,404 child care centres by the end of the plan. 100 grams of foodgrain and 10 grams of oil to give 400 calories at a cost of 25 paise and 10 grams of protein per beneficiary in the child care centres and 300 grams of cereals and 15 grams of oil giving 1,200 calories costing Rs. 1/- and 20 grams of proteins at the nutrition rehabilitation centres will be the contents of the meals. The Adminstrative unit for the programme will be the State Nutrition Board. The pharmaceutical and Chemical Complex of Merck at Taboga, which has been recently set up, will be manufacturing vitamins E and P (rutin) for the first time in India. This would mean a saving of about Rs. 1

crore every year in foreign exchange. The Country's requirements of these vitamins are estimated to be 9 tons and 18 tons by the end of the Fifth and Sixth Plans respectively. In the context of the rapid population growth and the massive family planning programme in the Country, the Union Ministry of Health undertook a study on the effect of spacing on the number of children born. The study was based on two plausible assumptions: (1) What would be the drop in the number of children born if the births in every five year age group of women are postponed by one year and (2) what would be the drop if every birth order is postponed by one year. The analysis has revealed that in the former case the decline in the birth rate may be as high as 24 per cent and in the latter the maximum possible reduction in fertility comes to 20 per cent. This can be achieved only by motivating all eligible couples to observe and practice the appropriate discipline.

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V. Employment

At a time when the State wide textile strike (See the State section in this issue) was disrupting industrial relations in the State, it was appropriate that the two meetings of the State Labour Advisory Board in early February, addressed themselves to ways and means of encouraging cordial industrial relations and ensuring industrial peace in the State. It has recommended a scheme for the annual award of prizes to employers and workers for this purpose. It has also recommended that one category of workers, namely loaders, that is not included in the Minimum Wages Act should also be included. This will cover the employment and conditions of loadmen in market places, shandies and other places. The State government also announced in early February a scheme for the rehabilitation of the two lakhs of physically handicapped persons. The first stage in the project is a survey of the handicapped to determine their precise number, location, education and employment status. The next stage will be to place the educated handicapped in suitable jobs and organise relief programmes for the uneducated. The Union Labour Minisry's reports on industrial relations referred to in Vol. IV page 152 were tinged with optimism, particularly in the public sector. A closer examination however shows that the public sector's industrial relations deteriorated in 1972 compared to the 2 previous years. It was 21 lakh mandays lost in 1970, 23 lakhs in 1971 and 33 lakhs in 1972. The Central sector's percentage of the total time lost was 12 per cent in 1971 and 9 per cent in 1972 but rose to 14 per cent in the first 8 months of 1973, indicating that industrial relations in the private sector were a little better. For December 1973, the official report states that out of 158 public sector undertakings 25 units experienced labour unrest, all being in key industries—7 mining, 5 engineering, 3 iron and steel and 3 fertilisers. To this should be added the IAC lockout and wildcat strikes in the railways. Further

information—very belated—on the labour earnings and absenteeism is contained in the Annual Survey of Industries 1969 issued in February 1974. In Vol. III page 644 attention was called to the futility of this publication which reports on Industrial development four years after the event. It may be of use to the archives and historian but if that is so, it is not something on which the government should expend its resources. If it is to help inim proved industrial planning and execution, the publication must refer to the industrial 12—18 months ago. The survey shows a lag in industrial wages at Rs. 9.86 per day in 1969 which meant an increase of 4.4 per cent compared to the 8.9 per cent increase in 1968. The daily wages varied widely as between industries and sectors from Rs. 5.91 in food processing to Rs. 18.98 in petroleum and coal. Also the gap between the lowest and highest wages which was Rs. 7.31 in 1967 widened to Rs. 13.07 in 1969. Inter State wage increase variations were wide, Maharashtral Bihar and West Bengal showing 12 to 24 per cent increases, while Gujarat and Orissa show a decline ranging between 5—24 per cent. Labour absenteeism at 13.4 per cent was unchanged, with the highest (15 per cent) in printing and publishing and in Orissa, Madhya Pradesh, Rajasthan, Gujarat, Haryana and Maharashtra (14—17 per cent). A positive element was the decline in labour turnover. The accession rate declined from 47.2 per cent in 1967 to 34.1 per cent in 1969 and the separation rate from 45.3 per cent to 32.4 per cent. This kind of valuable information should be available for 1972 to keep improving industrial relations and help in planning the Fifth Plan realistically.

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VI. Other Items

Indian Economic Association:

The Honoray Secretary of the Association sent out a circular in February to all members on the 1974 Annual Conference as follows:

The 57th Annual Conference of the Indian Economic Association will be held in Bangalore and the tentative dates are 27, 28 and 29 December 1974. The three subjects chosen for discussion at the Conference are:

Recent Trends in Welfare Economics,

Price policy in India,

Regional Economic Development in India.

I hope that it would be possible for you to arrange your programme of work and travel so that the Conference can benefit from your personal participation.

If you wish to prepare a paper on any one of the subjects stated above, will you be so kind as to send your manuscript in duplicate to the President of the 57th Annual Conference of the Indian Economic Association to be held in Bangalore, Dr. Malcolm S. Adiseshiah, Madras Institute of Development Studies, 74 Second Main Road, Gandhi Nagar, Madras 600020, to reach him before 31st August, 1974?

The President who has been charged with responsibility for preparing the revision of the Constitution also consulted the membership in February on the Constitutional changes in the following terms:

The Constitution Sub-Committee set up by the General Body at Tiruchi comprising Dr. V. M. Dandekar, Dr. V. Shanmugasundaram and myself and assisted at my invitation by members of the Executive Committee and past Presidents resident in the locality, namely Mr. M. L. Dantwalla, Mr. V. D. Lall Mr. S. L. Shetty, Dr. Lakdawalla and Dr. Brahmananda had its first meeting in Bombay on February 20th and agreed on a first draft of the Constitution. It would like to consult the membership of the Association on the major lines of the emerging Constitution both to keep you informed of the developments and to be guided by the majority views so that the adoption of the Constitution at the General Body meeting in December of this year in Bangalore will be facilitated. The main features of the proposal are:

(1) Putting together the draft amendments proposed in the past.

(2) Making the Association a professionally active body in organising seminars, exchanges and research projects in addition to the annual conference and publishing the journal.

(3) Providing for further continuity in its management by providing for a Chairman of the Exective Committee who will, like the Hon. Secretary and Treasurer, be elected for three years and a small Standing Committee.

(4) Organising the Annual Conference in such a way that there will be greater professional interest and involvement in it.

May I request you therefore to complet the attached brief questionnaire and sen it to me as soon as possible but not late than March 15th, so that I can place the consolidated results of the replies before the second meeting of the Constitution Sub-Committee in Delhi on March 25th?

A. CONSTITUTION: Yes: No: Comments

1. Should the Constitution set forth broad general objectives, functions, powers and means of functioning of the Association, so that it is not frequently amended, while the Rules contain the details which can be changed from time to time, as circumstances warrant?

2. Should the functions of the Association be broadened to cover conferences, publications, exchanges, research promotion and co-operation with local and international associations in addition to running the Annual Conference and the Quarterly Journal?

3. Does this broadened programme function call for a chairman of the Executive Committee elected like the Hon. Secretary and Treasurer for three years, both being eligible for re-election, so that they can divide the work of organising seminars, scholarships, research projects, in addition to increasing the membership and servicing them adequately? (Under this system, the President of the Conference will still be elected annually and though the Chairman and Secretary will be in different Centres, they can carry double the programme load that the Secretary alone can carry).

4. Should the main organs of the Association be:

   (a) the General Body consistings of all members who have paid their dues for two consecutive years including current arrears which is responsible for the policy and programme of the Association,

   (b) the Executive Committee consisting of 18 members elected by the General Body and members of the Standing Committee which prepares for meeting of the General Body,

   (c) the Standing Committee consisting of the next annual Conference, the Chairman of the Executive Committee the Hon. Secretary and Treasurer, the Managing Editor of the Indian Economic Journal and the Hon. Local Secretary all elected by the General Body and responsible for the execution of the programme approved by the General Body.

B. RULES *Yes* *No* *Comments*

1. Should the membership fees be revised as follows:

   Ordinary members Rs. 30 per annum. Institutional members Rs. 100 per annum.

   Life members Rs. 1,000 as lump sum Donor members Rs. 5,000 as lump sum.

2. Should the Chairman and the Secretary be authorised in executing the programme to use regional and local economic associations to the fullest extent possible?

3. Should the Executive Committee members also elected for three years retire by rotation of 1/3 every year?

4. Should the Annual Conference continue as it is?

   Should it be divided into three sections conforming to three broad areas of economic sciences (for example Economic Theory, Quantitative Economics, and Applied Economics) which will meet in sections on the afternoon of the first day and the whole of the second day each under its own Chairman and present its report to the plenary on the afternoon of the third day for review and discussion?

5. In the latter case, should the Annual Conference be guided by a Steering Committee consisting of the President, the Hon. Secretary, the Hon. Local Secretary, the Chairman of the Executive Committee and the Chairman of the three sections?

Indian Association for Research into National Income and Wealth:

The Ninth Conference of the Indian Association for Research into National Income and wealth was held in Ootacamund at the end of January. The Conference brought together some 120 economists specialising in National Income Research under the Chairmanship of Prof. M. Mukherjee, Chief, National Income Research Unit, ISI. The research work being done on various phases of National Income and accounts in real terms, the work of CSO and the National Sample Survey, the special problems of State Accounts, the means of improving these computations and the possibility of launching a survey of income distribution were the main subjects of discussion. There was also a meeting arranged between the Committee on Regional Accounts also headed by Prof. M. Mukherjee and the State Planning Commission at which the possible uses of State Income estimates

for planning and policy purposes were discussed. The reliability of the State income estimates, the need to improve their data base particularly of the non-commodity producing sectors, the use made of these estimates and of the consumer expenditure estimates of NSS, the problems of estimating district incomes were discussed in some depth. The Committee is having such discussions with all the States and as a result it is hoped that the reliability of both the national and state income estimated may be improved,

Tata Institute of Social Science:

The Tata Institute of Social Sciences, Bombay has completed 38 years as the outstanding academic institution for education and research in Social Work in the Country. Its Governing Board decided that the programme and functioning of the Institute should be reviewed, and invited Dr. Malcolm S. Adiseshiah, Director of MIDS to chair the committee and Dr. M. S. Gore, the Director of the Institute to act as the member-secretary of the committee. The other members of the Committee are Dr. K. S. Basu, Director, Jamnalal Bajaj Institute of Management Studies, Bombay, Mr. P. N. Luthra, Additional Secretary, Department of Social Welfare, Government of India, and Prof. S. N. Ranade, Principal, Delhi School of Social Work. The Committee held its first meeting at the Institute in February, reviewed the documentation placed at its disposal by the Director, agreed on its programme and time-table of work and met the heads of departments and students and student representatives of the Institute. It will meet again in March to hold detailed discussions with each department, meet some of the alumni of the Institute and discuss the future programme of the Institute in social work, personnel daministration and research.

Memorandum on Inflation:

As noted in the paragraph on prices in the National section, following the Seminar in Madras in December organised by the Institute of Financial Management and the Annual Economic Conference at Tiruchirapalli, the Bombay group of economists drafted a memorandum on the ways of arresting the inflationary spiral in the Country, circulated and discussed it with some 140 academic economists, including 7 past presidents and the present President of the Indian Economic Association and presented it to the Prime Minister under the signature of Prof. C. N. Vakil, the seniormost of the past Presidents. The major recommendations made to the government are;

(i) The immediate object of policy should be to roll back prices to a lower level and to reduce significantly the incidence of 'black money'. This necessitates immobilization of say 30% of money supply through partial demonetization, and issuance of 20 year fixed interest yielding but illiquid savings certificates and blocked accounts.

(ii) There should be a national ceiling of 5% on the annual growth rate of money supply during the Fifth Plan.

(iii) Government borrowing from the entire banking system should be completely eschewed during the first two years of the Fifth Plan. The step-up in government expenditure contemplated in the Fifth Plan should be brought about through rationalization of expenditure and maximum dependence upon non-inflationary sources of receipts. The growth rate of credit to the industrial-commercial sector should be pruned with reference to the macro-ceiling of 5%. The proportion of value of inventories financed by bank credit should be reduced to about 33 1/3%.

(iv) Rationalization of government expenditures can be achieved by economising severely on non-accumulation expenditures. By economy campaigns and appropriate redesigning of projects, considerable saving in the draft on scarce commodities can be achieved. Government should progressively divest itself of revenue expenditure commitments predominantly benefitting the upper, the middle and the organised working classes.

(v) The benefit-cost tool should be used for selection and location of projects and based on a minimum shadow interest rate of 12½%. All capital projects to be newly sanctioned must be examined with reference to their fiscal viability. Norms of work-standards should be laid down for all levels of employees in the government. The services of Defence personnel should be considered for deployment in programmes of construction of quick gestation period projects, and in step up of emergency production schemes particularly in food articles.

(vi) Suitable arrangements should be made to examine continuously the desirability and feasibility of granting of, or of the continuance of, subsidies of various types from the public exchequer. All subsidies to certain categories of consumers and Government and Public servants in the form of supply of goods at subsidized rates, loans at concessional interest, quarters, travel concessions etc. should be subject to periodical review.

(vii) A drastic upward revision is needed in the level of the Bank Rate, the structure of deposit rates and yield rates. The term, structure of rates, should be so devised as to favour the medium-term and the long-term savers. The lending rates by banks for prime borrowers should be increased.

(viii) The instrument of taxation should be effectively used to reduce luxury consumption by individuals and firms, to siphon off excess demand on scarce commodities, to encourage exports, to promote savings in specific financial and other assets and generally to realign the pattern of private production along a product-mix enabling the speedy attainment of self-reliance. Discriminatory excise taxes, exemption of increment in savings from income-tax, tax-credit schemes based on degrees of utilisation of capacity, are all in order. Tax loopholes should be closed. The tax-revenue from agriculture should be raised to 3% of net output of agriculture.

(ix) Exchange reserves should be built-up to stand normally at a level of about six months of annual imports. Export duties should be selectively and flexibly used. Through appropriate redesigning of construction, encouragement of indigenous methods of transport, greater use of public transport, promotion of organic manures and similar changes in production methods and in input-mix, the direct and indirect repercussions of the oil crisis can be partly overcome.

(x) As shortages in household-necessities like food articles, paper, oil, electricity, transport amenities etc. are going to be with us continuously in the years ahead, it is incumbent to initiate and keep up economy campaigns as during the Second War. The system of public distribution should be expanded by increasing the number of fair price shops, using in the urban areas voluntary agencies and outlets and in rural areas recognised non-government retailers. The supply system to this network needs to be strengthened by a system of uniform and compulsory levy of food grains including coarse grains, edible oils, sugar, pulses and in the case of standard cloth, the effective allocation and collection of the output as between the mills and the decentralized sector. Several decentralized

buffer stocks centres should be developed within each State to feed the distribution network. It may be added that unless the Government has the political will to make such a system efficient and honest, it will add to confusion and unrest as now, instead of helping the poor.

(xi) As food articles are the most crucial of the basic goods, and as their supplies are highly uncertain, it is necessary to build adequate buffer stocks through the maximum feasible economy in consumption and the maximum expansion in production each year. The various campaigns for 'Grow More Food' tried during the War and the post-war years, should be reinstated with appropriate modifications to suit the current situation. Since food prices have a pivotal role in the general price level, the programme of stockpiling may have to be supplemented by planned imports, so that food supplies may be assured in times of acute scarcity and the contingency of distressed purchases abroad obviated.

(xii) A national compaign for avoidance of waste, for practice of austerity at all levels and for the development of the queue habit has to be initiated. The practice of austerity must begin from the top so that a national habit of living within means comes to be developed as social virtue.

(xiii) Public enterprises and departmental concerns are not yielding adequate surpluses to contribute to the savings pool. Some of them are not even breaking even. There is inadequate sense of social commitment on the part of most of the managerial and labour personnel. The climate of working in these concerns must be radically transformed. The Single Helmsman system should be considered for their efficient day-to-day management so that one person can be squarely held responsible for pitfalls and be given suitable credit for improvements. Unit-wise five year targets for surplus should be laid down.

(xiv) Relief outlays for natural calamities should be financed from emergency surcharges, levies and deposits. In order to avoid misuse of this facility, it is necessary to lay down principles and guidelines for such outlays.

(xv) An industrial truce should be established. Wages, profits and dividends should be frozen at the present levels for two years. In the meantime an Incomes Differentials Commission should be set up to work out the order of differences permissible in incomes between different classes and categories of employees.

(xvi) In the fight against inflation, it is necessary that topmost priority should be given to investment allocations for maximising the short-term rate of growth of production of agricultural commodities and related neccessary inputs. The annual priorities in the Plan should be keyed to this.

(xvii) An enquiry committee should examine the reasons for under-utilization of industrial capacity and for sagging growth in manufacturiug production. Industrial production can be considerably augmented without substantial investments in fixed capital through increasing capacity utilization, encouraging multi-shift working, rationalization, and other related efficiency-augmenting measures.

Educational Reform Meetings :

A Conference of headmasters of the Catholic and non-catholic schools in the State met at Tiruchirapalli in mid February, under the sponsorship of the Tamil Nadu Christian Council and the Catholic Diocese of Tiruchirapalli and a meeting of the staff and students of Women's Christian College in early January, centred around

the next steps to be taken in reforming the educational system. The Tiruchirapalli Conference discussed the State's Perspective Plan for Education — the Learning Society, work oriented education, the role of religious and moral instruction and the means of involving the parents and the home in the schools and set up a follow-up committee to help in implementing its recommendations. The Women's Christian College meeting examined the results of self evaluation study that had been conducted by its students and the programmes of study and curricular reconstruction being developed by the staff with a view to making its education and research more closely related to the interests of the students and the development needs of the State. The College's thinking and discussion is an effective preparation for its taking its part in the complete reform of the university system ahead of us in the State.

School and College Days :

Rosary Matriculation School is one of the few effective and educationally outstanding schools in the State. In its celebration of the School Day in early February, the all round excellenee of the students — in studies, in academic competitions and sports — was demonstrated. With a student strength of over 1,000, its 65 students who sat for the matriculation examination last year all passed, with 36 in the first class, 28 in the second class and 1 in the third class. In this school the quantitative achievement is an indicator of its quality. The Sacred Heart College in Tirupattur also celebrated its College day in mid February. The college draws its students mainly from the surrounding rural areas of North Arcot district and unlike most colleges has a majority of its 1,050 students from the poverty sector. It has an active Social Service League which helps its staff and students to relate their studies to the rural realities around them.

Seminar on Industrial Psychology :

The Institute of Public Enterprise, Hyderabad organised at the end of February in Madras a Seminar on Industrial Psychology. The papers read and discussed at the Seminar dealt with personnel selection of executives, training, environmental designing and work dynamics, organisation behaviour in the industrial setting, supervisory problems, human relations, executive leadership, talent research, industrial counselling, consumer research and motivation. Attended by 30 executives from public and private firms, the Seminar provided an occasion for exchanging ideas and agreeing on programmes and procedures for improving management and human relations in industry.

Inter-disciplinary research methodology seminar :

In light of the many representations made by the participants who are all heads of social science departments and therefore cannot be absent for a long time, and the possibility of compressing the programme of the inter-disciplinary research methology seminar at Hyderabad, it has been decided to shorten the duration of the seminar from the original 10 working days running from Monday 1 April to Saturday 13 April to a 9 days seminar from Monday 1 April to Tuesday 9 April, both days inclusive. This means that Saturday the 6th will be a full working day and Sunday the 7th a half working day. Further to the list of participants given in the last issue (Vol. IV pages 225-227), the further acceptances are :

Dr. N. V. Thirtha,
Prof. & Head of the Department of
Post-Graduate Studies in Education,
Bangalore University,
Palace Road, Bangalore-9.

Dr. Gautam Mathur,
Prof. & Head of the Dept. of Economics,
Osmania University,
HYDERABAD-500007.

Dr. C. Lakshmanan,
Department of Sociology,
Osmania University,
HYDERABAD-500007.

Mr. K. V. Ramana,
Department of Economics,
Andhra University, Waltair,
ANDHRA PRADESH.

Dr. Sitanshu Mookerjee,
Principal, Nagpur Mahavidyalaya,
Chairman, Board of Studies in Geography,
Nagpur University, Nagpur-10.

Dr. V. Rajagopalan,
Head of the Department of Agri. Economics, Tamil Nadu Agricultural University,
COIMBATORE-641003.

Dr. R. V. R. Chandrasekhara Rao,
Prof. & Head of the Department of Politics and Public Administration,
Andhra University, Waltair,
ANDHRA PRADESH.

RESOURCE PERSONS

Prof. Rasheeduddin Khan, M.P.,
Dean, School of Social Sciences,
Jawaharlal Nehru University,
New Mehrauli Road,
NEW DELHI-57.

March Development Seminar :

The paper for the March Development Seminar, Science and Technology in the Plan, by Dr. S. Sampath, Deputy Director, Indian Institute of Technology, Guindy, together with a summary of the discussion at the Seminar under the Chairmanship of Dr. A Ramakrishnan, Director, Matscience, appears as the first article.

Second Article :

A paper on Educated Unemployment appears as the second article.

SCIENCE AND TECHNOLOGY IN THE PLAN

By

PROF. S. SAMPATH

Dy. Director, Indian Institute of Technology, Madras

I

FORMULATION OF A PLAN FOR SCIENCE AND TECHNOLOGY FOR TAMIL NADU 1974-84

1.1 'Towards a learning Society—a Plan for Education, Science and Technology —1974-84

An important landmark in the progress of the work of the Planning Commission of the Government of Tamil Nadu was the setting up of the Task Force on Education, Science and Technology in October 1971. The study carried out by this Task Force, over a period of nine months, under the Chairmanship of Dr. Malcolm Adiseshiah, culminated in a Report (Plan Document No. 1) entitled: "Towards a Learning Society—a Plan for Education, Science and Technology: 1974–84".

While presenting this Report to the Chairman of the State Planning Commission, in July 1972, Dr. Adiseshiah described it as a blueprint for the regeneration of education, science, technology and culture in Tamil Nadu over the twelve year period 1972-84. The Document contains an eloquent plea. for the initiation of an intensive scientific research and technology programme designed to speed up the growth of the State both in the agricultural and industrial sectors. It urges that education and science should be made functional and relevant to the needs of Tamil Nadu and India of to-day and to-morrow; and that the State should create, maintain and expand, as and when found necessary, facilities for advanced studies, research and development in science and technology, with one or two strong centres of excellence in every important constituent area of scientific and technological endeavour in the State.

The Plan Document proposes the establishment of two State Councils to serve as the clearing houses and the co-ordinating agencies for the promotion of Science and Technology at the State level: the Tamil Nadu Science Foundation and the Tamil Nadu Academy of Basic and Applied Sciences. It also visualises the coming into existence of a number of other agencies for related functions, notably an Institute for Management Training and Development, a Centre for Information Storage and Retrieval, a Centre for Urban Engineering; a Materials Testing Bureau and a Hall of Science and Industry.

1.2 'An Approach of the Science and Technology Plan for Tamil Nadu'

The Planning Commission set up simultaneously a number of other Task Forces to deal with the other important sectors of development, viz. Agriculture, Forestry, Animal Husbandry, Fisheries, Irrigation, Minerals, Fuel and Power, Roads and Road Transport, Industries, Housing

nnd Urban Development, Health and Family Planning, Nutrition, Water Supply and Management.

The wide-ranging deliberations that took place in the meetings of the Task Forces and the Working Groups set up by them and the Documents embodying the findings of the Task Forces focussed attention on the importance of the research and development effort that the State should be prepared to organize in each of the relevant areas in order to achieve worth-while results and move swiftly forward to the goals of the Planning process. Taking the cue from this, the Planning Commission organized a consultation, in April 1973, under the Chairmanship of Sri M. G. Rajaram, Deputy Chairman of the Commission. Those who participated in this exercise included many who had contributed to the preparation of the Reports of the various Task-Forces as well as representatives of the Council of Scientific and Industrial Research, the Department of Atomic Energy and the Department of Science and Technology of the Government of India. The critical study carried out at this consultation had, as its sheet—anchor, the basic objectives put forward by the Planning Commission for the perspective plan of the State together with the proposals made by the Task Force on Science and Technology and the Approach Document published by the National Committee on Science and Technology. The papers presented and the discussions held in this forum helped to crystallize to some extent the goals and the methodologies to be pursued for the State Science and Technology Plan. A follow-up Committee, consisting of 15 members, was set up in April 1973 and this Committee was required to prepare a blue-print for the practical implementation of the Science and Technology Plan for the State.

1.3 'Science in the Battle Against Poverty —A Plan for Science and Technology 1974-84— Research and Development Projects'.

The work of the Committee referred to above led to the preparation of Document "Science in the Battle against Poverty —A Plan for Science and Technology 1974-84—Research and Development Projects". This was formally released in January 1974 at a function presided over by the Hon. Minister for Education, Dr. V. R. Nedunchezhian. The Minister hailed the Report as a compendium of progressive and useful ideas for the economic advancement of the State and called upon all concerned to come together to make hard-headed decisions, on a co-operative basis, on the implementation of the various proposed schemes.

This Document—which may well come to be looked upon as a pace-setter for planning at the State level—contains, in summary form, research and development projects in 15 sectors that are considered to be key areas for the development of the State. These sectors are: Agriculture and allied disciplines; forestry; veterinary science; fisheries; irrigation; minerals; industry; roads and road transport; fuel and power; housing and urban development; health and family planning; water supply; nutrition; education, management; delineation of the over-all goals.

In a visualization of the infrastructure needed to impart the requisite education and training for the proposed research and development activities, this Document calls for the strengthening and appropriate funding of existing research and development institutions, notably the Institute of Mathematical Sciences, the post-graduate Departments of the Universities of Madras, Annamalai and Madurai, the Tamil Nadu Agricultural University in Coimbatore, the Veterinary

College in Madras and the Bio-Medical Engineering unit at IIT, Madras. It also calls for the establishment of new centres for research and development in a number of areas, viz. a University of Technology in Madras, a centre for Ocean Engineering and Marine Sciences, a Centre for Automotive Engineering and Development; a centre for Urban Engineering, a College for Fisheries, a State Fisheries Institute, an Institute for water studies, a Materials Testing Bureau, a Prototype Instruments and Servicing Centre, an Electrical Testing, Certification and Product Development Laboratory, a post-graduate institute in Public Health Engineering, Computer Centres for various applications such as system—simulation, data collection and analysis, an Energy Institute and a Hall of Science and Industry.

The Document highlights the importance of setting up the following Sectoral Councils or Committees for the identification and implementation, on a continuing basis, of the various Projects considered to be beneficial to the State's planned development:

1. Agricultural Researeh
2. Forestry Research
3. Fisheries Research
4. Veterinary Research
5. Water Resources Research
6. Power Research
7. Medical Research
8. Housing Research
9. Industrial Research
10. Educational Research and Training

The Document also endorses the proposal made by the Task Force on Education, Science and Technology to set up two high-powered State Councils, namely the Science Foundation and the Academy of Basic and Applied Sciences—each with a clearly defined charter of Functions, powers and responsibilities.

1.4 Seminar on the Plan for Science and Technology for Tamil Nadu—1974-84

A one-day Seminar was organized on 2nd March 1974 at the Indian Institute of Technology, Madras—with the objective of triggering an in-depth study of the Science and Technology Plan by a group of members of the academic community at Madras—drawn from institutions comprising IIT, Madras; the CSIR Laboratories (Central Leather Research Institute as well as the constellation of the Regional Laboratories in the CSIR complex in Adyar); Matscience Institute; the College of Engineering, Guindy; the Madras Institute of Technology, Chromepet; the A. C. College of Technology and the Madras University Departments of Physics and Chemistry; the Technical Teachers Training Institute, Adyar, and the Highway Research Station of the Government of Tamil Nadu.

Inaugurating the Seminar, the State Education Minister said; "I am requesting the Government and the State Planning Commission to arrange for a discussion on these projects for taking quick decisions on implementation. In this respect, your views will be most valuable. You can indicate the areas of priority and implementing agencies also". The discussions that took place at this Seminar, under the Chairmanship of Dr. Adiseshiah, kept the exhortation in view and achieved, in my view, the following useful results: One, it brought to the notice of the State Planning Commission the reservoir of talent, capacity for critical judgment, expertise and resources available in Madras and in other parts of the State, which, if put to coordinated and intelligent use, will contribute significantly to the Fruition of many

of the proposed projects; two, it revealed that a good number of young scientists in the academic institutions and research establishments are willing and ready to commit themselves to programmes of work that have an immediate relevance to the needs of the State in putting through its programmes for 'the regeneration of its education, science, technology and culture'. A follow-up from the Seminar was the setting up of a preparatory Committee, with its membership drawn from all the participating research and development establishments, to function as the advisory, co-ordinating and monitoring agency of the State Planning Commission—in the formative period, as it takes on various tasks constituting action on the Science and Technology front.

A document summarizing the thoughts and ideas expressed during this one-day get-together and offering a perspective on the methodology of implementation of the approval schemes and new schemes, if any, should become available soon and this will be examined with interest by all concerned with the plan.

II

PRIORITIES FOR THE PROJECTS IN THE SCIENCE AND TECHNOLOGY PLAN

The basic approach of the Planning Commission is that, in relation to agriculture and allied areas, industries and various infrastructural facilities, the research and development efforts in the State should be geared to the basic needs of the common people in food, nutrition, clothing, housing, water supply hygiene and health-care. The projects pertaining to these areas snould receive the highest priority.

To provide the necessary inputs for the above, there should be a scaling up of the State's productivity and this can come only through an acceleration of the tempo of its industrial development. The nurturing of industries—in the large, medium and small scale sectors, should receive full attention. In the context of to-day, the problems of Fuel and Power have assumed special urgency and these have to be grappled with on a water-footing and with all the ingenuity that we can muster.

To achieve all this, there has to be a commitment, on the part of scientists and technologists, to work for the social purposes in view, subordinating in the process their natural instinct to pursue knowledge for its own sake or to rest content with checking the validity of an innovative idea on the laboratory-table. Equally important is the need to reorient our educational programmes so as to take the message of what science can do to large sections of our population and to be able to adopt modern technologies to our conditions or generate new ones that we may put to use to increase our production, to make a dent on our poverty, squalor and ill-health and thus create, in some measure, additional resources for the process of educational growth itself.

2.1 Agriculture, Forestry, Animal Husbandry, Fisheries, Irrigation, Water-Supply, Housing and Urban Development and Road Transport.

Eight projects have been proposed for increasing agricultural production suited to our climatic and soil requirements: (i) rain-fed agriculture ; (ii) new cropping patterns for the irrigated areas (iii) agro-based industries (iv) seed-technology (v) farm management and marketing (vi) extension methodology (vii) production designs of farm-machinery, tools and implements; (viii) horticultural crops in hill-areas.

A comprehensive programme in forestry research has been proposed comprising studies on pest-control, soil and water

conservation, economic afforestation of marginal estates, water-shed management, micro-biology of soils and bio-taxonomic studies on plants.

In Veterinary science, it is proposed to evolve new dairy breeds, new breeds of swine and new strains of sheep. In fisheries, the projects that are planned relate to a study of marine resources in the inshore region, experimental fishing operations with medium and large vessels and local fishery problems.

Projects under irrigation and Ground Water will be concerned with : real time computer simulation exerises; recycled irrigation; sedimentation in reservoirs, regeneration of the river basins ; hard rock area, investigation, water and well location investigation ; artificial recharge ; abstraction of ground water ; and drilling techniques.

In the area of water-supply the following problems will receive attention : water treatment for rural water-supplies ; sewage treatment and re-use ; new construction techniques for water-supply and sewerage works ; sewerage flow patterns ; treatment of industrial wastes ; public health engineering ; leak detection and control of corrosion.

Two major projects are proposed under Housing and Urban Development : one will concentrate on research in Urban planning and housing, and the other on regional planning and urban development.

Several projects are proposed to be undertaken under roads and road transport. The important ones relate to : data-processing for high-way research centres ; fly-ash for rural roads ; precast culverts ; bridge structures and their load-carrying capacities; pavement strength and surface enrichment ; foundation piles; test-tracks ; and traffic and transportation studies.

In all these projects referred to in this section, the infra-structural facilities proposed through the augmentation of the capabilities of the Agricultural University, the College of Veterinary Science and the High-ways Research Station and the establishment of new centres such as the State Fisheries Institute, the Institute for Water studies, the Centre for Urban Engineering, the Centre for Ocean Engineering and Marine Sciences and the Materials Testing Bureau—offer the best hope for quick and meaningful results.

2.2 Health and Family Planning.

In this area, the projects included in the Plan Document are the following : bio-medical research in Family Planning and reproduction physiology ; bio-chemical investigation in certain diseases ; research in haematology and anaemia and leukaemia; clinical pharmocology; rural filariasis; efficacy of B.C.G. vaccination ; diabetes research ; operation therapy and social therapy ; oral cancer ; retinal clinic ; genetic diseases (detection before onset). In the area of Nutrition, a project has been proposed on the longitudinal and cross-sectional studies of boys and girls (pre-school to teen-age levels). It is proposed to stengthen the Bio-Medical Engineering activities in the Cell already functioning at IIT, Madras.

While a number of specific projects have been proposed in the medical area, the opportunity appears to have been missed to incorporate into the Science and Technology Plan a scheme for education in health and hygiene for the whole population and for developing a suitable system of medicare and health-care delivery procedures and systems.

I vividly recall Dr. B. Ramamurthy, Neuro-Physician, in the course of his key-note address at the Regional Seminar of the NCST held in Madras in April

1973, state that, if he were a dictator, he would concentrate solely and fully on public health and community health problems for the next five years, keeping the rest of the medical care at its present level. Protected water-supply, immunization and public health education have to be carried to the urban and the rural population. This is not just a matter of logistics but a question of adequate planning and the use of all the educational and propaganda techniques available to us.

The next priority should be for the delivery of minimum medical care to the people when they need it and where they need it. Regrettably this has received very inadequate attention so far.

Medical technology has advanced and continues to advance at a very rapid rate. The question may be asked as to whether, in the present state of economy of our country, we should postpone going in for advanced medical technology. In a democratic set up where people are well-informed about the progress of science elsewhere in the world and where expectations are high, there can be no denial of modern facilities to those who need them. Advanced facilities have to be built up in various centres in the country on an equitable basis. This is analogous to our having to build good roads in our rural areas and simultaneously improving and expanding a few of our air-port facilities. For these medical centres, scientific and technological know-how is absolutely essential—either imported or indigenously developed. In the field of medicine, scientific knowledge is freely available; but the technology has to be nurtured in the country, for both diagnostic and curative purposes. Gadgets like the ECG, EEG, EMG, transducers of various types, polygraphs, bio-chemical instruments, prosthetic appliances like artificial heart-values, power-operated artificial limbs, plastic transplantable organs, computing devices, analysers etc. have to be developed in this country. Our Science and Technology Plan should take note of this situation and initiate an inter-disciplinary. purpose-oriented programme in this important area.

2.3 The Industrial Sector

In the First Four Plans, Tamil Nadu which lacked an industrial raw materials base and with its limited capital, fixed and working, raised from within the State, still attained the fourth most advanced position in the country's industrial map—with significant production in the following area: metals and metal-products; chemicals; agricultural and farm equipment; mechanical and electrical engineering products; railway coaches and automobiles.

During the Fifth Plan period, the State proposes to place emphasis on an expansion of the agro-based and processing industries. A change in the pattern of agricultural production is envisaged in order to increase the yield of commercial crops and to impart an impetus to the growth of the agro-based industries. Processing industries and such mineral-based industries as can be implemented with a more intensive use of the mineral resources available in the State should be set up. The State can make a meaningful contribution to the national pool by stretching to the maximum the lead that it already possesses in some industries, notably sugar and cement. The cotton textile industry and the automobile industry should be helped to regain their position of primacy in the national economy. The State would do well to embark on an expansion of the existing fertiliser units and try and promote entirely new designs basis on the use of different feed-stocks. The State should exploit its abundant salt resources to a greater extent.

There is wide scope for growth in the mechanical, electrical and electronic component and equipment industries. The Salem Steel Project will in due course generate new developments in the mechanical engineering industry. A project for the development of sophisticated Machine Tools is a desirable objective. The expansion of the High Pressure Boiler Plant will surely pave the way for many ancillary industries. The Teleprinter Factory in Madras and the photo-films factory in Ootacamund are likely to be expanded, and new central sector units may come up in the areas of telecommunication equipment, cables and electronic components and systems.

For the Fifth and Sixth Plan period, the State Planning Commission is proposing accelerated advances in 14 groups of industries : metal-based ; automobile and allied units ; cement ; ceramics ; refractories and glass ; electrical products ; electronics ; textiles, handloom ; sugar ; paper ; alcohol ; vanaspati ; rice-milling ; and fruit-processing. Only 3 out of these 14 areas are capable of being developed with resources available in the State (cement, sugar and fruits). The growth of the Industrial Sector will heavily depend on two factors : the availability of a good industrial climate and the prospect of harmonious working inside the undertaking ; and the possibilities of good management and innovative practices made possible by a responsive and timely research and development back up.

The proposal to set up an Industrial Research Committee for the State, to locate it in the environment of a higher institute of technology, and to entrust it with the responsibility to decide on priorities and placement of research projects, supervise their execution and help to transfer the laboratory studies into pilot-plants and processes—augurs very well for the pace of the growth of industrial research and development in the State.

2.4 Power and Fuel

The main proposal contained in the Plan Document, pertaining to this area, is the setting up of an Electric Energy System Institute. When established, this Institute will be one of the corner-stones of the Science and Technology structure of the State.

A number of projects have been proposed dealing with problems such as: dynamic power-systems study; relay and protection engineering; improved plant utilization; reduction of transmission lines; economization of rural electrification etc.

Taking into account the projected industrial growth during the Fifth Plan period, the State's power needs are likely to rise from 1,720 MW (1973) to 3,360 (1979). The first need would appear to be for a doubling of the generating capacity. The second requirement is the establishment of a better balance between the three energy sources—hydro-electric, thermal and nuclear, against our present two-thirds dependence on hydel sources, and to economize on fuel consumption. The third is to reduce the transmission losses, which are currently around 18–20%, as against the All-India average of 12%.

There is scope now to use digital computer techniques for the projection of the transmission and distribution networks. Suitable computer programmes, with reference to the operation of hydel stations in the post-monsoon period, can help to effect conservation methods throughout the year and to obviate power-cuts at locations and points of time that may cause serious dislocation of industrial operation. There is a need to design

micro-hydel schemes capable of supplying local loads without a link with transmission grids.

During the consultation, Dr. M. R. Srinivasan of the Madras Atomic Power Project, Kalpakkam made two interesting suggestions to which I wish to refer briefly.

One concerns the case for a shift to electric traction both in inter-city and intra-city travel. The importation of petroleum products for sutaining the transportation sectors is fraught with difficulties, uncertainties and rising costs. The progress of electrification in the railways has been slow due to the high capital cost of the existing traction technology. May we not try leap-frogging into a future technology which will replace steel and possibly aluminium also with fibre-glass reinforced plastic for rail-cars and locomotives. This new material is highly labour-intensive and is low in material cost and will ideally suit the Country's socio-economic situation. The dependence on steel will go down and the energy consumption in traction would be drastically reduced.

The second suggestion relates to the electrically driven automobile for traffic within cities. Two approaches are under study, one based on the rise of improved storage batteries and the other on the development of the requisite kind of fuel cells. Here again the full benefit will not accrue from merely replacing the internal combustion of the conventional automobile by a battery. A totally new design concept using light-weight materials of construction—again reinforced plastic—may be advantageous. The Centre for automotive, engineering and development, in collaboration with other interested research and development institutions in the State, may address itself to this innovative and challenging assignment.

IV. Science and Technology and service to society.

Prof. Hannes Alfren, the renowned Magneto-hydrodynamicist, said this in an address which he delivered in India a couple of years ago :

> "Medical Science has successfully fought epidemics but forgotten that the population explosion that resulted from it is an even more serious threat in the long run. Electronics has made communication all the world over much easier, but communication between the rich and the poor in society is worse than at any time before. Even with the most sophisticated observational techniques, scientists are unable to observe and understand social conditions prevailing just outside the walls of their laboratories. In this so-called age of science, the number of illiterates is increasing at a fast rate. Science seems to have forgotten what was its primary—and still its most important—task to fight ignorance, prejudice and superstition wherever they appear. It is obvious that, in many respects, the relationship between society and science must change. This requires new thinking and many bold initiatives."

We are still not out of a situation in which a large fraction of the intellectual community exists in isolation and far removed from where the action lies. A few years ago, an American, Dr. William Grouse, Professor from Carnegie—Mellon Institute of Technology—after a visit to India, recorded this impression:

> "I was greatly struck by the fine quality of the laboratory equipment in the Institutes which I visited. I was equally impressed by the calibre of the bands of Faculty-member working at these institutions. Good

academic work goes on, but I saw little that was relevant to the urgent and pressing needs of the Country around them. I came away from India—with an utter sense of despair—considering the magnitude of her problems of industrial growth and national development and the extreme inadequacy of what was being done, in relation to them, in the best of the Country's institutions devoted to science and technology."

I do believe that the situation has changed for the better now. There is now a desire to ensure that education and the motivation for learning should be used in a conscious way as instruments of change in the economic, scientific, technological and social spheres; and an attempt to synthesize knowledge and skills with a sense of commitment and service to society. There is a clearer visualization to-day of the dangers inherent in an abject dependence on the good-will and charity of the powerful and advanced nations of the world. We realize that the factors that make a nation strong and vital are: its capacity to make a co-ordinated effort and pool its resources; the availability of products based on the use of indigenous materials, designs and skills—which alone can ensure continuity of supply, maintenance and replacement; continual striving for all that modern science and technology make possible, and above all goals worthy of a united effort. We have learnt at some cost that only a Country that can take care of its basic needs can stand firmly on its own feet and will command respect in the comity of nations of the world. In this sense, we may have attained a sense of identity with a will and purpose and the potential to work for the fundamentals we believe in, without at the same time getting isolated from the world community or becoming backward in the utilization of modern science and technology.

V. Managers for Research and Development

Technological change is the cornerstone of economic productivity. It signifies the process of perception and the consequent generation of scientific ideas and their transformation into products and services. It is made up of two ingredients: the process and the organization. It expresses itself through the individual and creative, yet co-operative acts of people. To co-ordinate the activities of the people toward a unified purpose, we need those who can be called Managers & Research and Development.

Engineers and industrialists, though late starters, yet to-day make impressive use of the scientific method and the systems approach. The duty of the Manager is to use these methods—to cultivate systems made up of people. He should also study and aid his system's interaction with the bigger framework of which his system is a part.

To be creative, people should be encouraged to specialize at different levels of the system, but the specialists should be coupled together to facilitate the synthesis of a large system. There is scope, and need, for specialization not only in research, design and development, but also manufacturing, sales and service. It is through the application of the systems-approach to what is called the people-process of innovation and a perceptive understanding of the linkage of the organization with its environment, that the Manager can help to bring about the full realization of the process. His job is to create and keep renewing the organization. As the system changes, his role also changes. His prime responsibility is to manage change. A good manager can do a great deal to bridge the gap and resolve the conflict that exists between industry and science, between technology

and society and between the individual and the system.

It is to be hoped that the proposed State Institute of Management will train and motivate personnel for this role in leadership and that the research and development establishments and the industrial organizations with an interest in innovative work will provide the climate in which such people can work and find fulfilment.

VI. Funds for Education, Research and Development

The Approach Paper of the National Committee on Science and Technology has indicated that a Research and Development cess is proposed to be levied on a graded basis on all industrial units in both the public and private sectors (yielding a total of about Rs. 300 crores during the Fifth Plan period) and that besides 1% of the GNP will be allocated by the end year of the Fifth Plan (Rs. 2,000 crores). It is essential that the proposed levy is put to good use on high prioity programmes in consultation with the concerned industry. It has been pointed out that in the research to production chain, the research component is only 5 to 10% and the innovation part is 90 to 95% of the total cost. Several times the quantum of money spent on research will have to be expended on transforming the results of research into useful and saleable products. There has to be a continuous struggle to find the large resources needed for this. But ingenuity can be used in some situations to realize what at first sight seems beyond our reach.

There is a story concerning Lord Rutherford, the renowned British Physicist and great pioneer in Nuclear physics—which can be used to make a point. When some one told him that the U.S. Scientists were beginning to make much more headway in Nuclear physics because they were able to spend large sums on research, Rutherford gave this rejoinder in his usual robust way" Americans have money. We do not have it. Let us therefore think".

The challenge before us is to think—and to devise, within the resources available to us, ways and means by which to lift the large segments of our population who live below the poverty line from the morass of want and squalor and give them a place under the sun. In the words of Dr. D. S. Kothari: "Those who talk of the frightening resources gap between the rich and the poor countries are ignoring the differences in value systems of various societies, the potentialities of a determined people inspired by ideals and the unbounded capabilities of modern science and technology".

Conclusion

The Document 'Science in the Battle against Poverty' symbolizes an attempt by the State to bring an integrated application of science and technology (natural, social and human) to bear upon the basic objectives of the Perspective Plan:

> reducing poverty by increasing the per capita income, by providing greater employment opportunities and by operating the minimum needs programme of the lowest 6 deciles of the population;
>
> ushering in social justice by lessening social and economic inequalities; and making the human being and his inexhaustible potential for creative work the centre pieces of the process of development.

The application would embrace all sectors of the economy: agriculture, forestry, animal husbandry, fisheries, health, family-planning, electric power, water resources, industry, education,

clothing, housing and food products like sugar and edible oils.

The identification and documentation of a set of research and development projects by groups of those who will initiate work on these and will be actively engaged in carrying them to fruition are demonstrably motivated by a desire to create, in appropriate sectors, the basis for the emergence of the goods and services needed by the masses of people in the State.

The review of the Plan Document that took place in the one-day Seminar held on 2nd March 1974 did not reveal any serious gaps or short-comings in the research and development coverage of the important sectors of the economy. While a substantial number of the projects proposed have an essentiality element for the redressal of our past backwardness and for quick movement in the forward direction in a stipulated time-frame, there are a number of other projects included which are merely illustrative of the useful work that can be done at one place or another depending on the facilities that are forthcoming. Another group of specialists may bring in, in this context, other projects that can be considered potentially useful. This is as it should be, and, in practice, when action commences, the availability of funds and personnel with requisite skills and the quality of direction and leadership will determine the nature and the extent to which each individual project will be pursued.

While some useful groundwork will no doubt be done by the proposed Preparatory Committee, speedy action is called for on the setting up of the Sectoral Councils and the establishment of the various infrastructural institutional facilities. Only then will it be possible to size up a single project or a group of related project and make timely decisions on allocations for the research and development effort, technology transfer and the dissemination of know-how and skills in relevant areas; and proceed to work out the details of the organizational structure to be used, the inter-faces with users and consumers and the social and cost-distribution effects of development in the industrial as well as other sectors of the economy.

In his key-note address to the NCST Regional Seminar held in Madras in April 1973, Dr. Adiseshiah made the suggestion that the first area of the National Plan referring to the Research and Development programmes must, at the mid-point of their elaboration, rest on and comprehend the State research and development needs flowing from the activities envisaged during the plan period. He pointed out that this synthetic middle process of the state priorities and research which starts with micro-analysis in subject areas and ends with integrated programmes appeared to be missing. So he made the plea that this gap should be filled and that each of the States should establish its research and development priorities in order that the National Plan may be a true synthesis of all of these. It is not clear at this time whether the NCST has taken note of the above and initiated any action thereon.

Through this Plan Document which calls for the use of science in the tackling of the problems of mass-poverty, the State Planning Commission has touched the minds of the scientists, technologists and industrialists working in various institutions and organizations in the State with something of the excitement of working for the betterment of the lot of their fellowmen. It is for this community now to respond to the challenge and to put their talents to productive use, fashioning and refashioning the tools that they possess and devising and following up innovative programmes of work.

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Summary of Discussion

In the discussion of the paper at the Seminar held in the seminar room of the Institute on Thursday the 28th of March, under the Chairmanship of Dr. A. Ramakrishnan, Director, the Institute of Mathematical Sciences, the author in introducing the paper traced the important landmarks in the evolution of the Science and Technology Plan for Tamil Nadu. The outlines of the Plan were set forth in the Task Force Report "Towards a Learning Society—a Plan for Education, Science and Technology 1972-84" presented to the State Planning Commission in July '72. This document expressed the importance of a sound institutional base to provide the needful research and development for the growth of the State. The institutions recommended were two major State Councils namely the Tamil Nadu Science Foundation and the Tamil Nadu Academy of Basic and Applied Sciences as well as the Institute for Management Training and Development, a Centre for Information storage and Retrieval etc. The need for an integrated approach to research and development was also highlighted by the reports of other Task Forces on Industry, Agriculture, Health, Fuel and Power etc. At the national level this policy was exphasised by the Approach Document "The Fifth Plan approach to Science and Technology". Against this background, the State Planning Commission held a consultation in April '73—the participants being the representatives of the working groups of various Task Forces and the CSIR, Atomic Energy Commission and the Department of Science and Technology of the Governmeut of India. The discussions enunciated the major goals for the State Science and Technology Plan and set up a 15 member follow-up Committee. The work of the Committee led to the preparation of the document "Science in the Battle against Poverty—A Plan for Science and Technology 1974-84—Research and Development Projects" which has identified 15 sectors and 106 projects that are considered to be key areas for the development of the State. The document recommends the importance of setting up of ten Sectoral Councils in Agricultural, Forestry, Fisheries, Veterinary, Water Resources, Power, Medical, Housing, Industrial and Educational Research and funding and strengthening of existing institutions. The release of the Report was followed by a one day Seminar on March 2nd, 1974, where a number of experts from technological academic and research institutions in the State gathered for alloting priorities and deciding on the possible agencies which could participate in implementation. A preparatory Committee from all the science establishments was formed to function as an advisory and co-ordinating body to the State Planning Commission. The basic approach emerging from the State Plan for Science and Technology underlines the fact that Research and Development programmes must be closely linked to the essential needs of the masses in food, clothing, housing. The projects pertaining to these areas should have the highest priority. The achievement of these basic objects will require a scaling up of productivity and the tempo of industrial development and in turn would mean that the Scientific Community will have to give second place to the pursuit of scientific knowledge for its own sake. An important factor is the need for R and D management training to lay particular emphasis on the linkages between organisation and environment as the management of change and conflict is its special and peculiar task.

In the general discussion it was pointed out that the Seminar paper is a historic and comprehensive statement of what the

Scientists have been doing for the last two years in framing the Science and Technology Plan for the State. It is for the first time that "Science" the highest point of the human mind and "Poverty" the lowest form of human degradation have been brought together in direct confrontation. A useful outcome has been the realisation that there is a tremendous potential in Science in Tamil Nadu. The preparatory Committee should address itself immediately to drafting a statute for the Scientific Councils. A reference was made to the seminar organised by the Institute in September 1971 on Consumer-user oriented research as a first step in co-ordinating of research users and producers. To-date the Scientific Community has yet to turn its skills to resolving pressing problems like finding a substitute for diesel oil, a cure for rust disease in wheat, improved bullock cart transport, or the evolution of cheaper and durable cloth instead of high priced fibres. The impending crisis in food, shelter, power etc. made it not only successory to think but to act fast. An opinion expressed was that in implementing development projects the socio-economic attitudes and structures in rural areas should not be ignored. Although a start has been made in listing projects and establishing their relevance, effective implementation would require organisational changes and the creation of an influential infrastructure like the Academy of Science. Further the Government Departments have very little tradition for research except in Agriculture, though individual expertise has not been lacking. The administrative decision making process and financial procedures have not been designed for implementing development programmes. Financing of Research and Development has been mainly from the Centre. 95 per cent of these funds have been utilised by Central agencies and 5 per cent by others including Universities which utilise 2 per cent. Academic and Technological Institutions were not yet tuned to undertake implementation at the pace which would be required. The Chairman deplored the increasing indifference to scientific research by scientists in India. There was deterioration in the quality of papers and scientific research done. The Scientific Council when established should consist of scientists with an impressive record. In this connection he pointed out that the suggestion for the establishment of a Science Foundation and a Science Academy was originally proposed by him at the Seminar held in December 1971 in the Institute and action to be taken for a science policy for Tamil Nadu was discussed in detail. It was pointed out that the working group which drafted the R & D report consisted of Technologists and Administrators and Social Scientists and not fundamental scientists. What we are concerned with is the co-ordination between Industry and the scientific laboratory to meet the needs of the common people and this the Tamil Nadu plan must achieve.

EDUCATED UNEMPLOYMENT*

The General Scene

I believe that this Seminar on Unemployment, its Causes and Cures, is timely. We have defined for ourselves the grand objectives of the Fifth Five Year Plan, which we will be launching 6 months from now, as the removal of poverty and the attainment of economic self-reliance. These two great goals are co-terminous with the call to eradicate our massive problems of unemployment and under-employment. We cannot remove poverty without removing unemployment and underemployment. One is dependent on the other, though one is not identical with the other. In the post-industrial affluent societies of Europe, North America, Japan and Australia, we face two quite different problems. First, there it is found that their inflationary economy has a full employment base and to damp down inflation they are working out what is the viable percentage of unemployment that each of them must create — U.S. at 6 per cent, U.K. at 4 per cent, Germany at 3 per cent Australia at 5 per cent, etc. It is well that we remember that in these countries there is a universal system of social security and unemployment assistance, so that the creation of unemployment is simply another way of paying a person or a family the resources required to meet its needs. Second, and consistently with the growing sophisticated technologies in those economies, the hours of work are being reduced and the use of increasing leisure rather than work and increasing employment are emerging as their new set of values. For us and the other developing countries unemployment and under-employment are the great realities that we must contend with, in our march to economic development and social wellbeing. Here, I must say that I am appalled at the lack of a data base that we face on this vital area of national and state action. I have reviewed all the studies on unemployment and in another paper that I have submitted to the Seminar, I have referred to them. I do not know how many persons are unemployed and how many underemployed and if this is not known, how can we discuss causes and cures, how can we formulate employment policies and programmes? You will notice that the Approach Document to the Fifth Plan and its accompanying Technical Note has a wealth of statistical information on all economic issues except on unemployment. I suggest that this Seminar urge each State Government to establish an annual survey of the unemployed and under-employed by sex, age, geographical location, number of hours worked, income earned and educational qualification, by village, by block and by district as we do for the season and crop report. This information should be collected through the District Planning Offices that we have established in this State and should be as disaggregated as possible in order that we may formulate working and workable employment generation policies and programmes.

For the rest of this address, I would like to concentrate on an area of unemployment on which we do have some data—educated

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Extracts from the keynote address delivered by Dr. Malcolm S. Adiseshiah at the Inter-Rural Institute Seminar held on 28th October 1973 at the Ramakrishna Mission Vidyalaya Rural Institute College of Rural Higher Education.

unemployment and in the process make some comments on the general employment perspectives of the Country.

The Educated Unemployed

The unemployment and misemployment of our secondary school and University graduates have also reached alarming proportions. Taking the number of matriculates, graduates and post-graduates who register at our Employment Exchanges as a rough and ready indicator of educated unemployment, we note three characteristics. There are more detailed disaggregated statistics on the educated unemployed, in the CSIR bulletins, Technical Manpower Vol. XV, No. 4,5 & 6 for those who are interested. First the total number of such educated persons who are unemployed is about equal to the total enrolment in our higher educations. As of June, 1973, 3.6 million matriculates, graduates and post-graduates were looking for employment as against 3.5 million enrolled in tertiary education in the Country. In Tamil Nadu our educated unemployed number 25 lakhs which is again equal to the 25 lakhs students studying in our colleges. The absolute number of our educated unemployed is alarming. Second the trend of their employment prospects has been declining. Again taking the educated unemployed registered at our Employment Exchanges, the trend is shown by the following reported figures; 1966, 0·9 million, 1967 1.08 million, 1968 1.3 million, 1969 1.5 million, 1970 1.7 million, 1971 2.29 million 1972 2.8 million, 1973 (July) 3.6 million. The economy, including the education system, has been steadily increasing the numbers of our educated unemployed over the last eight years. Third, taking the total job seekers registered in the employment Exchanges again as a sample of unemployment in the Country, the rate of growth of educated unemployment is higher than that of general unemployment. While the total of job seekers increased by 7 per cent in the last twelve months, the total of educated job seekers increased by 30 per cent in that period. Too great a significance should not, however be attached to this last feature, as generally, it is the educated unemployed who have the required information and knowledge to register themselves at our Employment Exchanges.

The broad outlines of the unemployment of our matriculates, graduates and post graduates are alarmingly clear. What we have no information on, is with regard to their misemployment. In some cases the raising of the qualifications for certain jobs need not be an expression of misemployment. Thus till the twenties, primary school teachers had to complete primary education. Since then their minimum qualification has been raised to matriculation and it is moving towards a B.A. or B.Sc. degree. By itself this is not undesirable, as education at the primary school is the most crucial and most decisive phase of education and requires sophisticated teachers. Again the simple start of employment at a level lower than one's educational qualification is no sign of misemployment. Just as in many manufacturing units, an efficient foreman or manager is one who starts as a worker or apprentice, so too in the growing self employment and entrepreneur schemes sponsored by the Government, starting at the worker level for a graduate has been shown to be necessary. In the Ajoy River embankment project in West Bengal, in some of the Youth against Famine projects all over the Country this summer, and in the Tamil Nadu youth corps, graduates worked carrying earth on their heads and performed other manual jobs and when later moved up to supervisory or executive positions, proved to be effec-

tive and knowledgeable directors. However given the fact that the unit cost of education at the University is around ten times that of the secondary school, to employ a graduate as a clerk or middle level professional where a secondary school completer is required is misemployment from the point of view of both the individual concerned and of society. There is no means of computing the extent of educated misemployment in the Country. That it exists and exists on an increasing scale is what observation suggests.

Demand Solution

The causes for our serious educated unemployment and misemployment situation are well known and indicate the lines along which short-term and long-term action needs to be taken to stop its deteriorating further. On the demand side, the short-term action is to increase the number of employment slots, for both the educated and uneducated unemployed. As between the educated and uneducated unemployed, economic criteria, namely, the investment loss during the period of unemployment, indicate priority for creating employment for the educated unemployment. On the other hand, given the fact that 80 per cent of our school and University graduates come from the top 20 per cent of our society and therefore have more staying power before employed, social justice considerations point to priority for the uneducated and less educated unemployed and underemployed. This conflict cannot be completely resolved except in the long run when the employment generation programme must (a) increase the total employment in society (b) augment production (c) not produce more unemployment, particularly educated unemployment in the future and (d) be a part of area development plans, where educated employment is generated at an arithmetic progression and rural employment at a geometric progression. The current Government programmes for educated employment generation are many sided. First there are the programmes which are creating jobs for the unemployed matriculates and graduates, comprising the primary school teachers, including the apprentice teachers scheme, the technical staff scheme, the rural water supply scheme, the rural engineering scheme and rural works scheme. This group needs to be broken down and adapted to conditions in each district and locality. Matriculates and graduates should enter this programme at whatever level is available with one single purpose—to produce and earn a living. The second group of schemes are the self employment schemes. Kerala, Andhra Pradesh, Mysore and Orissa have launched successful schemes for professional self employment, while Gujarat and Tamil Nadu have launched schemes for the self employment of craftsmen. This important opening for the individual electronic technicians, plumbers, physicians calls for training, tools and transport which the States should provide, and self confidence which the matriculate and graduate must bring to his job. Above all this scheme is the link between the world of learning and the world of work for the educated unemployed. The third group comprises the entrepreneur scheme of the Agro-Service centres and the entrepreneurs' training courses developed by the Small Industries Services Institutes. This group is aimed at unemployed engineers and technicians and even science graduates. It is desirable that those entering this scheme should pass through the self emloyment and training phases of the programme.

In the long run we will have to choose whether growth is the centre piece of our

Fifth and Sixth Plans or whether productive employment will replace it as the main thrust. This is my second main suggestion, that the entire economic structure and production and distribution flow, public or private, secondary and tertiary—must be consistent with our factor endowment. In general we must move in the direction of increasing the labour intensity of all our investments. This has serious policy implications with regard to the system of our means of production to which I call your attention.

Supply Solution :

The supply side of the unemployment equation is a long term concern but must be acted on now. It is a long term concern because the population explosion of the fifties and sixties has resulted in the labour force explosion of to-day, when 1,20,000 young workers are entering our labour market every week. If we want to bring down our labour force entrants of the eighties and nineties to 80,000—1,00,000 a week and not allow it to climb to double that number, we have got to bring down our birth rate 2—2.5 per cent now. It is also a long term concern because the matriculates for the next three years, the graduates and post-graduates for the next three to five years are already in the education mill and nothing can be done to stop them graduating and facing the world of unemployment and misemployment and even worse the stigma of unemployability. On the other hand, action must be taken now if the matriculates, graduates and post-graduates of the Sixth Plan period are to find employment and are to be regarded as employable. The action called for is a double one. The first one is to restrict the number of students entering higher (arts and science) education, as is done in the case of engineering, medical and agricultural education, with compensatory facilities for students from the disadvantaged section of society. The supply problem is very simple. Employment in the organised sector is increasing at 2.4 per cent, according to the employment market information for 1971-72, while the graduation for that year increased by 9 per cent. Gujarat reports that the number of secondary and University students increased by 3.3 lakhs between 1968 and 1971, while the number of jobs in the organised sector was 80,000. Tamil Nadu reports that against 10,000 job vacancies for graduates in 1972, 44,000 B.As., B.Scs., M.As., and M.Scs., graduated in that year. Higher education today is for the majority an economic waste and it should be limited to those who (a) have the merit and aptitude for it as revealed in interviews and tests and/or (b) are from the poor majority of our society who through scholarships and special compensatory education can be helped to combat the discrimination they have so long suffered. One corollary of this selective admissions policy is to raise the University and college fees gradually to that of the level of other goods and services that we consume in society. Such a price accompanied by scholarships for the disadvantaged community students will ration the supply and bring it nearer to demand. Second secondary education must be immediately vocationalised, 80 per cent of its students being prepared for the employment market which is as wide, varied and large as is our country—covering agriculture in wet and dry lands, in river areas, mountain and sea location, forestry, fisheries, animal husbandry, the 2,000 odd of lines of small, medium and large industries and the self employment channels and service. Such diversification and vocationalisation at the secondary level will not only prepare secondary school students to enter the employment market but also reduce the number wishing to enter higher education

only, because our present education system is a one way street—going from one class to another, from school to college, never stepping from the class room into the world of work. With this kind of work based vocational secondary education, higher education also can and will be diversified and made practical and work based. Alongside of these two supply solutions, there is a pre-condition and that is a programme of out of school and out of college education under which anyone at work should be entitled to improve his educational and training qualifications — through correspondence courses, evening classes, self study and other ways. Such out of school education and training programmes are also needed now to re-train and re-educate our matriculates and graduates whom the school and college have made unemployable. That is why around 60 per cent of the Rs. 100 crores of the 5 lakh educated employment programme that has been launched by the Union Government is being spent by the State Schemes on such out of school education and training programmes to make some 2.8 lakh men and women graduates acceptable in the employment market. But out-of-school education is also a means of reforming our out-dated education system by making it work-based and learning oriented and a means of providing every one in this State and the Country with the minimum basic skills he needs as a worker. And that is my concluding thought—that work oriented universal education can become a major solvent to our poverty and unemployment by providing every one with the skills, attitudes and aptitudes for wage employment and self employment.

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